

Lectures on Practical Mining in Germany.

CLAUSTHAL MINING SCHOOL NOTES—No. XVI.*

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SECTION II.

PROSPECTING FOR MINERALS—BORING.

I.—PRELIMINARY PRECAUTIONS AND ARRANGEMENTS.

The lever rocks on a small axle, the middle half being square in section; the axle is let to the half of its thickness into the underside of the beam; it is firmly fixed to the lever by means of two longitudinal straps, the one below, the other above, and two cross straps embrace the beam. It is further unnecessarily secured by means of two nuts and bolts passing through the beam, and both longitudinal straps; these may be dispensed with as tending to weaken the beam. On a careful adjustment of this axle a great deal depends, since it is only when this is properly fixed that the hook from which bore-rods are suspended can move up and down in an exactly vertical plane. The method of fastening the axle must be such that it can be readily removed nearer to or further from the end of the lever, according to the relation which is required between the lengths of the two arms.

The press handle which is taken hold of by the workmen is attached by means of an iron strap and bolt to the end of the lever, the handle being made sufficiently long, 8 ft., for six to eight persons, for all the workmen, so that they can all work with the same leverage. The handle is rounded off except where it passes through the end of the lever, where it is square in section, to prevent its turning round. The press handle is usually made of young oak or beechwood; when the handle requires to be longer and stronger, several handles or griffs are attached to the press handle, which in this case is better called the cross-beam, for the greater convenience of the workmen, so that half the workmen face towards the bore-hole, and the other half from the bore-hole. On the upper surface of the smaller end of the lever a groove is made in order to receive iron bars of different sizes, the object of which will afterwards be explained.

The boring trestle on which the lever is supported consists of a frame, which rests on the floor of the bore tower, and on which the winding apparatus for lowering or bringing up the rods, sludgers, &c., is also fixed. At the proper distance from the end of the frame, calculated to suit the two ends of the arm, the trestle is pinned and strutted, so as to form a firm support for the lever, notwithstanding the vibration to which the whole is subjected during the boring operations. On the head of the trestle wrought-iron sockets, in which the lever axle or pins rest, are let in and securely fixed, and at such a height above the cross-piece of the trestle as to allow sufficient inclination for the lever. The sockets are provided with removable caps. Where a great variation in the hardness and compactness of rocks to be met with is expected, and consequently repeated variations in the proportion of the lengths of the two arms desirable, several sockets are formed in the same piece on which the axle rests.

An arrangement generally used by Herr Kind resembles a set of shears, the lever swinging between two sideframes. The lever, which must for this purpose be somewhat deeper, which is cut on the underside with semi-circular channels, and on the support a hard piece of wood, provided with similar notches for the pin, is fixed; the pin throughout its whole length is cylindrical, and rests loose in these semi-circular hollows; this shows also another arrangement for fastening the head of the boring rods to the end of the lever.

As with every boring arrangement it is necessary to have some means by which the lever can be drawn back or aside from over the bore-hole, a moveable link is fixed or hinged to the trestle. When it is desired to draw the lever back from over the bore-hole the forward end of the bore lever is depressed until the link can be made fast to an eye by means of a pin slipped through the link and eye. The caps above the lever axle are unscrewed, and on the lever being raised they can then be readily withdrawn; and on the tail end of the lever being drawn back the opposite end or head of the lever, which is supported by means of a link, will also be drawn back until the link is prevented from moving any further by the cross-piece of the trestle. This withdrawal can be effected in other ways, as by means of a roller. In the arrangement used by Herr Kind this withdrawal can be effected more quickly, but requires a greater exertion of labour. To the frame belongs also the lever guides, which are placed at about the centre of the long arms to guide the lever in a vertical plane, the spring board, and the spring. The guides are firmly let into and strutted against the frame, the object being to guide the lever in a perfectly vertical plane—that is, to prevent any side oscillations of the point of attachment of the boring-rods, in which case the bore-hole soon deviates from a truly perpendicular direction. On this account the earliest designs were made similar to a pair of shears, when the trestle sides were provided with several holes, which allowed of the lever being raised or lowered. A platform of foot boards is fixed on the frame below the tail end of the lever for the workmen, to give them at a convenient height a firm and secure footing, which is necessary to the ease and effectiveness of the workmen engaged in raising and depressing the lever. We shall speak later on of the spring-board and the spring.

The most usual arrangement in Belgium consists essentially of a windlass, lever, and pulleys. The windlass possesses two large toothed wheels attached to the ends of a barrel. With these wheels two small pinions may be made to gear separately—that is, by moving the axle to which they are attached sideways in its bearings. The two pinions are of different sizes, so that two different speeds can be obtained—the slower for raising the rods at the commencement when the hole has attained a considerable depth, the quicker when the weight of the rods has been lessened by the removal of some of the upper rods. When it is desired to lower the rods it can be done by pushing the pinions out of gear, when the weight will occasion their descent; to check a too rapid descent, or stop them altogether, a brake is provided. In order to raise the rods two pulleys and two ropes are used. The latter are rolled on the drum in opposite ways, so that when one cord is being wound in the other is being paid out. By this arrangement one of the hooks attached to the end of the ropes is at the height of the scaffolding when the other is at the surface of the ground, so that by turning the winch in opposite directions alternately no time is lost, the boring-rods being always raised in whatever direction the windlass is turned.

At the extremity of the long arm of the lever several cords are attached, by which the workmen are enabled to pull that end of it down, raising the rods; and on letting go the rods fall of their own weight. Of course, these cords might be replaced by a cross-handle, &c. At the other extremity a sector of a circle is fixed, whose centre is the point about which the lever oscillates. Over this sector a chain passes which is attached to the head of the boring-rods, the other end is attached to the beam by passing one of the links over a hook fixed to the lever, so that part of the end of the chain hangs loose. It is evident that the chain may be lengthened or shortened by fixing it by one or other of the links, in order to accommodate it to the gradually increasing depth of the hole.

A still better arrangement for heavy boring, perhaps, is that designed by the French mining engineer, J. Degoussé. The boring lever oscillates on an axle which drops into two sockets. The arrangement by which the axle is fixed to the lever is similar to that we have already described. The lever is provided at both ends with hooks, to the one at the head the boring-rods are attached, and to the other a long iron link which ends in a fork. The two sides of the fork are provided with holes, through which a pin can be slipped. By this means the fork can be attached to a single-arm lever; there are several holes in the fork, so that the position of attachment is variable. Close to the lower end of the lever is fixed a windlass, which consists of two cast iron standards, in which the axle of the barrel rests, as also the axle to which the pinion is attached. On

the larger axle are attached two or three cams, which when the windlass is turned press successively on the end of the lever, by means of which the rods are raised. Immediately on the passage of one of the cams the weight of the rods causes their descent. A double ratchet is attached to the standard, by which the rotation of the pinion can be prevented in either direction. An iron band brake, lined with wood, which clamps the brake wheel, is also provided, the pressure being applied by means of a foot lever. The barrel is provided with a hook, to which the end of the rope is attached.

This arrangement was used by Herr Beer in 1847 at Kladno in boring for coal to a depth of 428 ft., which was accomplished in eleven weeks without the application of a free falling apparatus. The diameter of the bore-hole was 4½ in., the strata so compact that a lining was not needed. Herr Beer, however, advises having a separate arrangement for raising the rods out of the bore-hole, a single windlass for the two purposes as above leading to too great a loss of time. The windlass can be driven by any motive-power most applicable. In the bore trials at Eisingen, Germany, Kind made use of a tread-wheel 19 ft. in diameter and 8 ft. long, on which six men worked inside and six outside. At the end of the tread-wheel axle a disc was fixed, to which four or five projecting pins were attached. These pins caught below the end of a one-armed lever which they raised, and on them passing the end of the weight of the rods caused them to fall. Within the last few years steam cylinders have been used either placed directly over the bore hole or attached directly to the rods, or attached to the opposite end of a lever. Such cylinders are single acting, and must be worked by hand in order to have full control in case of stoppage or accident. With such arrangements it is always most advisable to use Kind's free falling apparatus. Concussion springs and counterbalances are necessary, but the rods should only be balanced to such an extent that after the fall of the boring tool there is sufficient extra weight in the rods to cause their descent. The raising and lowering of the rods out of the bore hole is accomplished by a separate engine. In the boring trials at Kohr, in Germany, the steam-cylinder was 12 in. in diameter, and capable of raising 3 ft. It was worked with high pressure steam. The winding-engine (likewise high pressure) had two horizontal cylinders 12 in. in diameter and 2 ft. stroke. The counter-balance lever was of oak, provided in front with a movable wrought-iron head-piece, it was 15 in. deep by 12 in. wide, and 6 ft. between the head and the axle on which it rocked. The total length was 14 ft., the sheet-iron balance-box being fixed to the opposite end. The concussion arrangement stood 5 ft. in the ground, the spring-pole being 8 ft. long and 8 in. square, made from strong fir wood. From the middle of the spring-pole two iron bars passed downwards on both sides of the balance-lever, and were joined together by a broad plate, so that the end of the balance-lever struck the spring-pole above and the plate below. When the lift of the rods was altered the plate was covered with wooden boards 3 in. thick, in order to cause the end of the balance-rod to strike sooner.

In consequence of the loss of time and labour involved in the removal of the cylinder from above the bore hole every time it was necessary to raise or lower the rods, or to remove the debris, it has become more usual to attach the piston-rod, through the intervention of chains, &c., to the end of a lever, the boring-rods being attached to the other end. The piston-rod is guided by means of a cross head, slide blocks, and slide bars, which latter are cast on or attached to the cylinder cover. The valve motion (Wilson's patent being, perhaps, best) is worked by hand. The manner in which the counterbalance or concussion spring is arranged is as follows:—The spring balance pole, which is 24 to 27 ft. long, is fixed firmly at one end to a wall, and from the middle of this the cage for the balance weight is suspended. At the end of the spring pole is fixed a block of wood, having a plate fixed on the top. On both sides, and attached to the end of the pole, two bars pass upwards, being joined above by a broad plate. A diagonal tie passes from this plate to the middle of the spring pole. The end of the rocking (boring) lever projects beyond the point of attachment of the chains from the cross head, and strikes above against the plate, and below against the top of the block. In some arrangements the rocking lever is attached by means of a connecting rod to a crank, which, by means of belts and pulleys, is rotated by a steam-engine.

2.—The arrangement for raising and lowering the rods and the construction of the bore house.

The size and arrangement of the bore house will naturally depend on the method and appliances which are intended to be employed. The house is built of wood, and must be constructed in such a manner that it is rigid and fast in itself, and not liable to suffer much from the vibrations to which it will be exposed. Besides the room containing the rocking lever and winding apparatus, there should be a smithy and a small room containing a stove, in which the bore master and his men can warm themselves and the tools. This latter may seem unnecessary, but when boring is carried on in winter cases have occurred in which, in consequence of cold tools and benumbed hands, the borer has let a key or other tool fall down the bore hole. The bore house should by no means be made small, as in such a case it may turn out inconvenient for handling the long rods, leading to loss of time, &c. When the borings are to be of any depth the house must have a considerable height, when it usually receives the name of bore tower. We will describe the construction of a bore house used for borings to a depth of about 700 feet, the arrangement used being that by Herr Beer, in the trials at Prague, near Bohemia.

The deeper a boring shaft is, and the higher the winding pulley can be raised above the surface, the greater will be the rapidity with which the boring tools can be raised and lowered into and out of the shaft. It is evident that we cannot have any single rod, or length of rods (which we screw or unscrew at one time) of a length greater than that of the depth of the bore shaft, plus the height of the winding pulley. Suppose we have a bore hole 100 fms. deep, and the greatest length of rods which we can screw or unscrew at at one time is 10 fms., it will be evident that we can raise the whole of the rods with 10 stoppages for unscrewing; if, however, the greatest length which we could unscrew was only 5 fms., we should require 20 stoppages, which would require twice as much time.

In the case we are describing the height of the winding pulley was 35 ft., the boring frame stands over a box shaft 8 fms. deep, in which is built a guiding bore tube 2 fms. high, so that we have here at least 10 fms. free for a length of boring-rods—a length quite sufficient for borings of 100 fms. or more. The three legs are fixed above in such a manner that two of them are pinned into each other at the top, the third is bevelled off so as to lean against the two former, to which it is fastened with iron straps and bolts. The posts of each leg stand in the corner of a triangle, and they are kept in that position apart from each other by being let into the ground frame. This latter, if possible, should be so arranged as to be under the ground framework of the bore house and the frame of the bore lever. The erection of the house commences with the laying down of the ground frame, after which the two legs are raised by means of props, and ropes, and ladders, and are held in the proper slanting position; and, lastly, the third leg is raised and leans against the other two. Whilst this is held in position a carpenter ascends by means of the step pins, which are already fixed to one of the legs, and makes the three legs fast together with the strap and bolt. When the three legs are thus made fast horizontal struts, kept apart by props, are fixed towards the upper part of the legs, and the scaffolding for the workmen when screwing and unscrewing the rods is laid on the top horizontal struts, and the winding pulley is fixed in its place still higher up in the legs. This winding pulley, which need not be put up until some time after the commencement of the other parts of the borer house is made of wood, usually fir, better oak. The pieces of which the pulley is made are held together by wooden nails, iron straps, and bolts. The axle is square in the middle, where it passes through the pulley, being turned at the ends, which generally fits into the iron or brass bearing, provided with caps. The breadth of the pulley will naturally depend on the kind of rope used (flat and round), and its dimensions. The diameter will depend chiefly upon the size of the angle between that part of the rope coming from the winding machine and the portion between the pulley on the top of the bore hole, which is generally tolerably acute. When the rope

is made of hemp the pulley should not be less than 3 ft. in diameter. Above the ground plank, and joining the feet of the two legs and the beams on which the lever frame is fixed, two beams are laid, into which two uprights are let, and not only firmly strutted on both sides, but also screwed fast to the legs. On the diagonal struts (from these uprights to the extremity of the ground frame) the plummer blocks to support the axle of the winding apparatus are fixed, each being supported immediately beneath the plummer block by a vertical prop or upright.

The winding axle (which is made of fir wood, 16 in. in diameter and 12 ft. long) lies parallel to one side of the bore shaft. It has two turned wrought-iron pins let in at the ends, and fastened with iron straps, which rest in the plummer block. In order to drive or rotate the axle a tread wheel is provided, being attached directly to the winding axle by means of cross arms or spokes, which are let somewhat into the axle, which in this place is square in section. It is also made additionally fast by wedging.

To the extremities of each pair of cross arms two sectors are attached by means of bolts, and are also let into the arms, which are dovetailed suitably to receive them. The two sectors are kept sufficiently wide apart by means of the four square cross bolts pinned into the sectors between the two arms. Lastly, the wheel is covered inside with the boards (about 1½ in. thick), and on to this covering the steps are nailed at distances of about 18 in. apart, so that by this arrangement the men stand within the wheel when raising or lowering the rods. The diameter of the wheel between the steps is 12 ft., the diameter of the winding axle being 8 in. The length of the tread wheel is 5 ft., so that three or four men can drive together. This gives a proportion of leverage of about 4 to 1. It is, however, advisable to make the wheel somewhat broader than 5 ft.; with very deep borings the breadth may be made equal to 10 ft., in which case the wheel should have three sectors and more cross-bolts.

MINERALOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND.

A general meeting of the members of this society was held, on Wednesday, in the rooms of the Royal Microscopical Society, the President, Mr. H. C. Sorby, F.R.S., in the chair.

A "Preliminary Note on a New and Simple Method for Determining the Refractive Powers of Small Portions of Transparent Substances," was read by the President. By means of a small divided scale and vernier, which may be readily attached to any microscope, Mr. Sorby succeeds in determining the refractive power of transparent substances to the second place of decimals. No previous preparation of the specimen is necessary in cases where two planes approximately parallel exist, one of them being moderately smooth. In other cases it is necessary to grind two such parallel surfaces. This invention will be of great importance to opticians, as it will be no longer necessary to grind a substance into a prism in order to determine its refractive power.

The following papers were also read and discussed, or taken as read:—"Note on a Serpentine from Japan," by Prof. A. H. Church, M.A. "On a peculiar form of Quartz Crystals from Australia," by the Rev. J. M. Mello, M.A. "On an easily constructed form of Reflecting Goniometer," by J. B. Hannay, F.C.S. "On Vauquelinite from Leadhills, and Antonite or Harrisite from Cornwall," by Thos. Davies, F.G.S. "On a peculiar kind of Black Quartz from Boswell Downs, Cornwall," by J. H. Collins, F.G.S. "On peculiar Combinations of Oxide of Iron and Quartz," by Wm. Vivian. "On the Hydrous Constituents of Minerals," by J. B. Hannay, F.C.S. "On the Magnetic Constituents of Rocks and Minerals," by J. B. Hannay, F.C.S. "On Nordenskjöld Iceblocks," by J. V. S. Steenstrup. Specimens in illustration of their papers were exhibited by Messrs. Sorby, Church, Collins, and Mello. The Rev. T. G. Bonney exhibited a series of sections of serpentine from the Lizard, Cornwall; and Mr. Ludlam exhibited a fine series of specimens of the new Cornish mineral, Ludlamite.

The thanks of the meeting were voted to the authors of papers, and to the Royal Microscopical Society for the use of the meeting room.

GEOLOGICAL SOCIETY OF LONDON.

March 7.—Prof. P. MARTIN DUNCAN, M.B., F.R.S. (President), in the chair.

The Rev. Ebenezer Davies, of the Green Oaks, Talbot-street, Southport; Wm. Davies, Antill-road, Bow-road; and Henry Davis Hook-old, mining engineer, Alma-terrace, Penzance, were elected Fellows, and George Garves Brush, professor of mineralogy in the Sheffield School of Science, Yale College, Newhaven, Connecticut; Prof. A. L. O. Desclieux, of Paris; Prof. E. Renevier, of Lausanne, and Count Gaston de Saporta, of Aix en Provence, foreign correspondents of the Society.—John Robert Campbell, Union Club, Trafalgar-square, and Charing, Ashford, Kent; James Carter, F.R.C.S., Petty Cur, Cambridge; Wm. Radcliffe Ellis, civil and mining engineer, King-street, Wigan; William Hamilton Merritt, Lansdowne-road, Notting Hill, and of Toronto, Canada; Wm. Morgans, mining engineer, of Chantry Frome, Somerset, and the Guildhall, Bristol; and Edmund Albert Parsick, civil engineer, Indian Public Works Department, Serampore, Hooghly District, Bengal, were proposed as Fellows of the Society.—Wm. B. Colman, barrister-at-law, Hyde Park Gardens, and of Bleach, Aberdeenshire; Wm. James Grimshaw, mining engineer, of Wellfield, Stand, Whitefield, near Manchester; and Alexander Ross, Union-street, Inverness, will be balloted for as Fellows of the Society.—The following communications were read:—

1.—"On the Vertebral Column and Pelvic Bones of *Pliosaurus* Evansi (Seeley), from the Oxford Clay of St. Neot's, in the Woodward Museum of the University of Cambridge," by Harry Govier Seeley, F.L.S., F.G.S., Professor of Geography in King's College, London.

2.—"Supplementary Notes on the Fauna of the Cambridge Greensand," by A. J. Jukes-Browne, B.A., F.G.S.

3.—"On the Beds between the Gault and Upper Chalk, near Folkestone," by F. G. Hilton Price, F.G.S.

BRISTOL MINING SCHOOL.—The students of this school have returned from another of the instructive visits to the neighbouring mining districts, which have been rendered so valuable by the kindness of the mine proprietors in throwing their works open to the inspection of the party, and allowing them every facility to carry away particulars of the engineering works. The Gloucestershire coal field was the object of study, and the principal collieries passed through—Trafalgar, Fox's Bridge, and Lightmoor. The geology of the district having been mastered to a great extent in the school, the plans and sections of the workings were readily understood, and consequently greatly facilitated the comprehension of the engineering works which have been so well arranged to meet the difficulties of working thin seams at great distances from the shafts. Among the many interesting operations witnessed those of conveying the coal from the working faces to the surface were carefully examined. The faces are laid out on the long wall system, the coal being hauled to the bottom of the shaft at Trafalgar Colliery by powerful engines along roads the incline of which is sufficient to cause the empty trams to pull out the rope after them as they return to the levels leading to the workings. At Lightmoor Colliery, where the roads are laid out at a less incline, systems of endless-rope haulage are employed, the continuous steel-rope on each engine-plane being kept tightly stretched over guide-pulleys prevented from slipping by clip-pulleys and driven by steam-power at from 8 to 10 miles per hour. The trams are attached in trains, and on one plane that has only a single line of rails the rope is run forward to bring the full trams from the workings, and its motion reversed to take the empty ones back, whilst on that with a double way the rope runs only in one direction. The system of electrical signalling has been well arranged by Capt. Brain at the Trafalgar Colliery, and the ease with which communication could be made, and the motion of machinery situated at great distances from the prime mover controlled, called forth the admiration of the students. The necessary constancy and power of the electrical batteries required have been secured at a very cheap rate by a new form arranged by Capt. Brain. Some very instructive experiments were performed before the party by the

* Being Notes on a Course of Lectures on Mining, delivered by Herr Berggrath Dr. von Grosse, Director of the Royal Bergakademie, Clausthal, The Harz, North Germany.

manager of the Electrical Blasting Company, Cinderford, to demonstrate the sensitive nature and other peculiarities of their fuses. The advantages gained by the students during such trips as this cannot be too highly estimated, and all connected with the school are much indebted to the gentlemen who have so freely thrown open their mines to inspection.

THE TRANSMISSION OF MOTIVE POWER.

At the Institute of Civil Engineers, on Tuesday (Mr. GEO. ROBERT STEPHENSON, President, in the chair), the paper read was "On the Transmission of Motive Power to Distant Points," by Mr. H. ROBINSON, M. Inst. C.E. With a view of determining the circumstances under which one system would be preferable to another, data were given respecting the various methods of transmitting motive power. Water pressure was referred to in the first instance, and Sir William Armstrong, V.P. Inst. C.E., was recognised as the originator of the hydraulic system in its present wide field of application. An extension of the system to towns on the co-operative principle was advocated, and works were described which had recently been carried out by the author at Hull, under an Act of Parliament, the first of the kind. In this case water pressure had been laid on to several of the river-side streets, to supply wharves and warehouses where hand-power had heretofore been chiefly used. The Hull Dock Company was one of the first consumers of the power, to work cranes and appliances at the south side of the Queen's Dock. Two pairs of 60-horse power engines supplied the power, space being provided for further engines to meet any extension of the system. Observations to ascertain the useful effect of the engines and the accumulators showed an efficiency of 76 per cent., the loss in the pumps being 5 per cent. The rate for the supply of water-power at Hull was 1s. 6d. per ton for a lift of 40 ft.

Under the practical rules which governed the flow of fluids in pipes, it was clear that water power was capable of transmission with but a little loss. In the machines themselves the useful effect was as high as 90 per cent. in direct-acting apparatus, and as low as 50 per cent. in cranes with great multiplying power. Detailed particulars were given of the working of the hydraulic system at various places, and of the pressures in the main ranging from 600 lbs. to 780 lbs. per square inch, 80 per cent. being taken as the efficiency of the water pressure after delivery into the main, and 75 per cent. being allowed for the losses in the distribution of the fluid.

For interest and depreciation, the cost at these places was:—				
Albert Docks, Hull	...	...	...	1.12d. per 100 foot-ton.
Cotton's Wharf (maximum)	...	...	...	1.89 "
Cotton's Wharf (minimum)	...	...	...	0.70 "
Great Western Railway, Paddington	...	...	...	1.19 "
Swansea Docks	...	...	...	1.94 "
St. Katharine Docks	...	...	...	1.48 "
London Docks	...	...	...	1.21 "
Victoria Docks	...	...	...	1.18 "
Mean	...	...	...	1.22 "

The other chief methods of transmitting power, referred to in this communication, were steam, compressed air, shafting, and ropes.

In conveying steam to a great distance, although loss of power occurred through condensation, yet, where the pipes were properly proportioned and protected, no appreciable loss had been found in the pressure at a distance of 1000 ft. from the boiler. The Lime-street tunnel of the Liverpool and Manchester Railway, having a mean gradient of 1 in 92, was for many years worked by stationary engines, supplied with steam from boilers situated at a distance of 4½ miles (Minutes of Proceedings, Inst. C.E., vol. i., 1841, p. 146). Where steam cranes were kept continuously working, the cost varied from 0·61d. to 2d. per 100 foot-tons, but where the work was below the full capabilities of the cranes it had, in two instances, reached 61 and 124, per 100 foot tons.

As regarded the application of compressed air, the calculations of M. Paul Ponce showed that for pressures of from 1 to 10 atmospheres the efficiency, where the air was not worked expansively, but was admitted for the whole of the stroke, varied from 100 to 391, and that, taking into account the efficiency of the machines themselves, at 70 per cent., the compounded efficiency was about 50 per cent., although in practice it rarely exceeded 30 per cent. Prof. Rankine had ascertained that the loss of power seldom amounted to less than from 65 to 75 per cent.; while Dr. Siemens had stated that the attainable limit of the useful effect of compressed air was about 50 per cent. of the power exerted in compression. Compressed air had been employed for underground haulage at Ryhope Colliery, in Durham, by Mr. W. F. Hall, where the cost had been 0.97d. per ton, exclusive of the ropes, which, if allowed for, would raise the cost to about 1.1d. per ton. It had also been used to work coal-cutting machines at Messrs. Burd's works, at Gartscherrie. In this case 2½ cubic feet of steam, at 40 lbs. pressure, gave 1 cubic foot of air at 50 lbs. pressure. Compressed air had been used since 1864 in the shops of Messrs. Easton and Anderson, at Erith, where the consumption of coal necessary to produce a given quantity of compressed air was found to be about 60 per cent. more than to produce the same quantity of steam at a like pressure. The application of compressed air by this firm to work capstans, and for opening gates and sluices at Portsmouth Dockyard was also alluded to, although the results were not yet known. In concluding this section of the paper, the trials made to supply compressed air to work tram-cars, by M. Mékarski, in Paris, Major Beaumont, M.P., at Woolwich, and Mr. Scott Moncrieff, in the Vale of Clwyd, were referred to.

As regarded the transmission of power by shafting, &c., the results of several experiments and calculations showed the loss to be from 32 to 37 per cent.

The application of ropes as a means of transmitting power at Oberseel, near Frankfort-on-the-Main, at Loeblach in Alsace, at Schaffhausen on the Rhine, and at Fribourg-on-the-Saane were described. The loss of power in transmission by a single wire-rope was estimated to be about 6 per cent. It had been stated that the cost of ropes was only 1-15th that of an equivalent amount of belting, and only 1-20th that of shafting. The wear and tear of ropes, together with the necessity of avoiding steep inclinations where the distances were long, lessened the advantages of that system. On the other hand, the loss of power in transmission by ropes varied only as the velocity, whereas either by compressed air or by water the loss due to friction increased as the square of the velocity. The application of rope gearing to transmit the power from the prime mover to machinery in a factory, in substitution of toothed gearing, was also mentioned.

In reviewing the several systems, it was pointed out that the loss in transmitting air was greater than that of water, owing to the volume of air, at 40 lbs. to the inch, requiring to be 17 1/2 times greater than that of water at 700 lbs. to the inch, to convey the same power. Generally it was remarked that compressed air might be adapted with advantage in mining and tunneling operations, notwithstanding the small useful effect obtained, as it enabled boilers and underground steam-engines to be dispensed with, thus diminishing the risk of explosion, and aided ventilation. Compressed air also tended to the greater employment of labour-saving appliances, the introduction of which was productive of the double advantage of dispensing with manual labour, and of enabling underground operations to be carried out more expeditiously, resulting in a quicker return on the capital sunk in such undertakings. Systems of power co-operation, similar to that carried out at Hull, might advantageously be established to effect a better conservation of motive power. At present, independent establishments were maintained to work the machinery and appliances, in most cases intermittently. By adopting power co-operation in the expense of production would be spread over many consumers, like the ordinary gas and domestic water services. A comparison of the various systems showed that there were circumstances to which each was suitable, and that as these did not admit of being dealt with always on the principle of economy, but rather of the appropriateness, each case must be decided by the conditions governing it. Where, however, the work to be done was intermittent, as in the case of cranes and dock work, the hydraulic system on the ground of speed, safety, steadiness, and general convenience was considered by the author to be superior to any other.

scattered in heaps over about 2500 hectares of ground. This old cinder is said to contain five and five-tenths per cent. of lead and thirty-seven-thousandths, or 1 per cent., of silver.

MINING AND STOCK EXCHANGE NEWS OF THE WEEK.

Messrs. F. W. MANSELL and Co. (Sworn Stock and Share Brokers),
43 and 43A, Palmerston Buildings, Old Broad-street, write to us as
follows:—

THE "BONAZA KINGS" (No. II.).—The jolliest millionaire in creation is to be found in the subject of this sketch, and the reason is simple enough. William S. O'Brien has taken the world easily from the day he entered it, over 40 years ago. It was at New York City, and that famous metropolis has done many worse things than in giving this man to California. We found Mr. O'Brien was, indeed, the social member of the firm—he draws his dividends, and laughing at care waxes daily more plump and debonaire. He arrived in California in July, 1849, in the ship *Farallento*, round the Horn, and passed through a probation, not of poverty, for to a man of simple tastes and good habits in California there can be no such thing, but of toil, self-denial, and devotion to business. His first business connection was with the late Col. William C. Hoff, one of the best known and most honoured pioneers. The firm of Hoff and O'Brien continued for two years, when the subject of this sketch retired for the purpose of forming a co-partnership with a ship chandler. In March, 1854, the present "bonanza firm" of Flood and O'Brien was established, and has never been dissolved—it is probably a co-partnership that will be ended only by the hand of the "grim monster." A good share of that popularity which laid the foundation of the fame and power of the firm was due to the genial manner and cheerful speech of its junior member. Everybody liked O'Brien, everybody put entire faith in the integrity of the firm. In the mining speculations that have gradually led up to the present position of the house, Mr. O'Brien has always been a full partner, and has made a host of friends and relatives happy by the liberal manner in which he disburses his wealth. And what better test of the true gentleman can be found than that shown by the fact that he enjoys the happiness of others. Mr. O'Brien is nearly 50 years old, and a bachelor—one of the richest in the world.

Referring to the unfounded information recently published by the Times upon the condition and prospects of the Comstock Mines, we last week alluded to the actual position of Consolidated Virginia. In further confirmation of what we then stated we now quote the following concerning the California Mine, which adjoins Consolidated Virginia. These are the two leading mines on the Comstock:

dated Virginia. There are the two leading mines on the Comstock: " \$1,080,000. This is the California mine dividend day. During the month its shipments have been over \$1,600,000, so there is no doubt about the dividend. We wonder if one in a thousand who reads the brief account of every month can retain in their minds the exact figures. The dividend of \$1,080,000 has the slightest idea of what is necessary to be done in order to make such an announcement possible. Everyone who ever owed a note in a bank knows that 30 days is a very brief period. To cause a mine to produce \$60,000 in one day is a tremendous feat—to continue this daily through weeks and months almost without variation is a marvel. It takes foresight, endurance, judgment, and nice calculation, such as very few men possess in this world. The ore from which this mighty yield is extracted lies hid away almost on the third of a mile below the earth's surface. It lies in a narrow, horizontal, irregularly shaped vein, and the only way of reaching it is by the invading miner. While the ore is being hoisted every month 1,250,000 feet of lumber has to be lowered and put in position to keep safe the weakening caused by the mighty excavations. While one level is being worked another has to be prepared, for a drain of 500 tons of ore per day would soon level a mountain down. Then the Comstock is an uneasy fissure. In a single week, sometimes, the swell of the ground shivers into splinters 14 inch square timbers. Shafts, drifts, inclines, and tracks have to be watched incessantly, for a mine, like a glacier, seems to be working. This is the great engine room of the world, where pumps, machinery, always to be kept in order—steam engines, air-engines, cables, cages, air-pipes, pumps, and all the multiplied devices intended to expedite the work and lessen the dangers of mining: 500 men have to be lowered into and hoisted from the depths daily: 300 cords of wood have to be provided daily for fuel; and there must be no delays, no serious accidents. The needed repairs must be anticipated and provided for; the accidents must be anticipated and guarded against; the explorations must be carried on months in advance; the supplies must never fail. A vast space of forest land, 30 miles square, has been reserved for the use of the Comstock, and this vast tract of forest land is to be cut into 15,000,000 ft. of timber and 100,000 cords of wood annually to supply the mine and to furnish fuel to hoist and reduce the ores. How many can appreciate the ability necessary to carry on this work without any mistakes? Many a man of mind sufficient to accomplish the feat would fall through sheer lack of physical strength. The work means being up at five o'clock in the morning—means two or three daily journeys into the depths, and when anything unusual happens it means standing guard day and night, like a ship's captain in a storm, with the men in the means of escape, and to be ready to take to the water at a moment's warning, yet to be careful enough to include its smallest details and even enough to anticipate the ways in which the enterprise months in advance. For ten months the California Mine has monthly given up this tremendous yield."

ISABELLE (Gold and Silver).—Last week we described some of the primary indications which naturally attract the practical miner; but it should be added that sometimes gold is found under very anomalous conditions; for instance, that in the Cherokee Mine, California, where the whole vein was decomposed and eroded, and from which the discoverers took out \$27,000 worth of gold, and then sold it to others, who got \$9000, then leased it to a gentleman who obtained \$30,000, and after him came a party who took out \$25,000 more. But that at Meadow Creek was singularly remarkable; the deposits of gold were in a marsh on the top of a mountain in the centre of a basin. The depression was nearly circular, about 12 miles in diameter, and surrounded by high mountains, except in an opening to the south. The mountain on which this mine is situated is granite, nearly circular at its base and many thousand feet high. From its top a number of flat marshy ravines ramify in every direction; under this a stratum of rough unwashed gravel, containing very rich gold, yielding \$1 to the pan. No quartz or other vein was discovered in the vicinity. The "Mother Lode" of California is in many respects the most remarkable metalliferous vein in the world; no other has been traced so far, has so many peculiar features, or worked to a profit in so many places.

The great argentiferous lodes of Mexico and South America can be followed not more than six or eight miles, while this Californian vein is distinctly traceable for more than 60; its general course is very nearly north-west and south-east, and dips eastward, usually at an angle of 45° or 50° to the horizon. The main vein varies from 1 to 30 ft., but the spurs or branches make it almost 100 ft. wide. The most remarkable side veins are those of talcose slate, and can be traced for miles; they are from 2 to 20 ft. wide, and rich in gold. There is a belt of greenstone on the eastern side of the lode; in some places the walls are as smooth as glass. The country rock is largely composed of porphyry, greenstone, quartzite, and the metamorphic rocks; the veinstone is almost always quartz. The Alder Gulch Placer Mine is an instance of an exceedingly rich deposit \$30,000,000 having been taken out in three years.

The Potosi Mine, in Bolivia, is a remarkable instance of the richness of a regular shafted mine, the production from 1545 to 1800 having been \$1,150,000,000. Placer mines are from a few to over

1000 ft. in depth, gold being found all the way down, generally increasing in quantity, so that if surface indications are discovered anywhere the earth should be examined to a proper depth. Vein rock is worked holding such fine gold that it cannot be detected by the unassisted eye, and gives a result of \$35 to \$80 per ton. Fissure veins are generally lined with slate or "putty gouge." These introductory remarks are valuable to those already (no less than those about to become) interested in the Isabelle Mines, and, at the same time, may be the means of saving many fruitless efforts by suggesting where and how to properly seek for indications of gold and silver.

EXCHEQUER (Gold and Silver).—Few shareholders even yet seem to be aware of the fact that the successful extraction of the precious metals from their ores has been a work of gradual progress and successive scientific inventions and mechanical appliances. At first there was much difficulty in extracting the metal even from the richest ore—there were no mills to crush the rock, no skilled metallurgists to reduce the ore. The simple processes used for reducing auriferous quartz would not suffice; gold exists in the metallic form, and so soon as the rock is pulverised can be obtained by washing or amalgamation. But silver is in chemical combination with baser substances, and must be separated from them by chemical influences before the metal will submit to unite with quicksilver, by which it must usually be caught.

All the silver produced in civilised countries was obtained by two

processes—the Frieberg German barrel, and the Mexican yard or patio. In the German process 300 lbs. of the ore, finely pulverised, are mixed with water to the thickness of cream, and after the addition of some salt, iron pyrites, scraps of iron, and quicksilver are put into a strong barrel, and kept revolving rapidly for 14 hours, at the end of which time the silver and quicksilver have united, and can easily be separated from the mud by washing. In the Mexican process the pulverised ore is mixed with water, salt, iron pyrites, and quicksilver, and left out in an open yard for three weeks, the mass being stirred or trodden with mules occasionally; this mode of reducing is very slow, and unsuited to the cool climate of Nevada, and at an elevation of some 9000 or 10,000 ft.

There was a general belief that some mode of amalgamation better than either of these could and would be devised, so while one set of men were engaged in hunting and opening mines another set were busy in studying a mode for reducing the ores. A satisfactory result was not reached for several years, but it came at last in the invention of the pan process, as distinguished from the barrel and yard processes. The pan is of cast-iron, about 5 ft. in diameter and 18 in. deep. Ore to an extent of 500 or 1000 lbs. are put in with salt, iron pyrites, quicksilver, and enough water to make a thin mud. A muller revolves on the bottom of the pan, and serves to grind the matter which is not fine enough, and also brings all the particles of the ore into contact with the chemicals and the quicksilver. Besides the motion of the muller various devices are used to keep up a regular current, so that all portions of the mixture are successively brought to the bottom and exposed to the action of the quicksilver. In some pans heat is applied. The American process extracts silver from the common sulphuret ores as thoroughly as any other process, with much more rapidity and with less expense. It is, therefore, in almost universal use in the American silver mines of the Pacific Slope, and has been introduced into Mexico, where it will, probably, in time supersede the yard process. The American process of to-day is materially different from that employed some years since, and the latest and simplest mechanical appliance for roasting and chloridising purposes is the O'Hara Champion Chloridising Furnace, which we have fully described in earlier papers.

This week's advices from the Eschequer state that, with the exception of the cable, the new hoisting works have been completed, and the manager states he will now be able to haul 55 to 30 tons per day without interfering with other operations in the mine. The weather was open, and the teams were making daily trips with ore from the mine to mill. Mr. O'Hara and his partner were busy attaching the machinery to work in combination with the mill, and at that date (Feb. 21) the quicksilver was on its way. The manager adds—he would be ready to run as soon as O'Hara; as to the result of that run, there is no doubt on this side nor that it will fail to be entirely satisfactory to the shareholders. At the mine the track for the dump had been extended 23 ft., and the shoot for the wood extended with two branches. In consequence of completing the hoisting works, less had been done in the mine, but everything continued to look well.

Our advices from the Flagstaff Mine are to the effect that the product is increasing, and the quality of the ore improving—a result most satisfactory, remembering that the earlier months of the year are, even under the most favourable circumstances, far less advantageous for mining than the remainder of the year.

I.X.L. (Gold and Silver).—The latest official advices state that the drift from the cross-cut in the 200 ft. level was in 474 ft., and in solid ore $4\frac{1}{2}$ ft. thick, of medium quality, but improving as the drift is extended towards the bonanza. The rise is now up 115 ft.

FLAGSTAFF (Silver).—According to our latest advices there is hardly snow enough on Emma Hill to make good sleighing, there being only about 3 ft. on the level. The present winter in Little Cottonwood has been the lightest ever known there, and the weather has been continuously delightful. An exceptionally early spring is anticipated, as heretofore the great body of snow has fallen before Jan. 1. The camp is lively, and flush times are universally expected in the coming season. Ore is being shipped out of Little Cottonwood at the rate of 127 tons daily, with a prospect for a speedy increase the coming season. Bullion buyers report business very active, at prices higher than at any time during the past four years considering the present rates of gold. The outlook for an extremely prosperous season in Utah is very promising.

VAN (Lead).—Upon a capital of 73,750*l.* dividends have been paid by this mine aggregating 300,000*l.* During the past year the sales of lead ore were 6850 tons, realising 102,925*l.*, an average of 15*l.* 0*s.* 6*d.* per ton. This shows an increase of 400 tons more than the previous year. The sales of blende ore during the year were 2460 tons, realising 9533*l.*, an average of 3*l.* 18*s.* 6*d.* per ton; an increase of 510 tons more than the previous years. The total receipts amounted to 112,727*l.* The expenditure, comprising labour, merchants' bills, royalty, rent, machinery, &c., amounted to 62,640*l.*, leaving a balance of 50,087*l.* as the net profit upon the year's working. The year's dividends declared and paid amounted to 49,500*l.*, the balance being carried forward to the reserve fund, increasing it to 4735*l.* The mine has been prosecuted with the utmost vigour is maintained in the highest possible condition by the manager, and the greatest confidence is expressed as to its successful development in the future.

GENERAL MARKETS.—Greater buoyancy has prevailed, the new being regarded more promising for the cause of peace than any that has transpired for months. The basis of this improved feeling is the wide-spread expectation that General Ignatieff's mission will gain its object by the assent of our Government to terms which will enable Russia to demobilise. With a strong belief animating many that a pacific solution is certain, it is not difficult to account for the rebound in values, yet the more stable and less excitable are unwilling to jump at conclusions.

RAILWAYS.—This market has been much firmer, notably Great Northern and Great Eastern. The latter has been purchased by such parties who seldom operate unless some important step is in contemplation. It is said that both boards are prepared to re-open negotiations for an amalgamation. Generally, the week's improved traffic receipts tended, no doubt, to impart additional strength. Although quotations of many stocks are relatively too high to their yield to the investor, the desire to put money into home rather than foreign securities is sure to maintain quotations so long as no check is given to the existing sanguine views taken of the political position.

FOREIGN BONDS.—The upward movement in this department has been most pronounced, particularly in those international stocks which have so long been depressed by the political uncertainty. The greatest advance has been in Russian, Hungarian, Egyptian and Turkish, and South American stocks participate in the improvement. Even Spanish and Mexican followed the general run.

MISCELLANEOUS.—The American market has been quiet, although Government Bonds were firmer. Anglo-American stock advanced in the early part of the week, but afterwards relapsed on realisations; it seems probable that the controversy between the two Atlantic companies may after all be settled by the abandonment of the part of the Direct of granting rebatés to certain clients.

NEW ARSENIC WORKS.—We understand that Mr. Gregory, in connection with Capt. Skewes, the manager of several mines near the River Tamar, are erecting large kilns on the sett of the old United (Gwennap) Mines, for the purpose of working over the old burrows for arsenic. The company will lay out about 1000*l.* and Mr. Pengelly, of the Swanpool Arsenic Works, near Falmouth, is, we understand, to be the manager. The stack on the sett now known as Hocking's will be utilized. The company is, we believe, mainly composed of Glasgow gentlemen. Mr. Beauchamp Beauchamp, of Trevice, is the owner of this land, and, in opposition to the undertaking, but Lord Clinton's tenants, who occupy the adjoining land, have, we understand, protested against the erection of arsenic works so near, and likely to injure their land, but with what result we have not heard.

BY ANDREA UNITED MINES. — During the recent managemt altogether closed upon half-a-million of mine was laid out. We think the exact amount was £46,900, but the loss was rather over 100,000. Tin was sold during the late working at the amount of 340,000. We have not learnt how the liabilities, owing when the mine was wound up, were discharged; at the same time there was a balance to be provided for 11,000. Capt. Tregay, we believe, went to London to induce the shareholders to carry on the concern, but they would have nothing further to do with him. The late manager, Mr. Tregay, was a very capable man, but he was not connected together with the mine itself, as a going concern, for a little over 2000, what will have cost the late adventurers scores of thousands of pounds. He, we understand, bought the mine, plant, &c. quite straightforwardly and openly, and has now left

A CINDER FOR SALE.—The Servian Government offers for sale quantity of old Roman scoria, estimated at 400,000 cubic metres.

promise of a most successful mine. The last report, dated March 8, stated that the various points of operation are giving generally increased yield, and promising further increase. They sold, March 3, at Carvedras, one week's produce—9 tons 4 cwt. 0 qr. 27 lbs. of black tin, at 43s. 10s. per ton, worth 400s. 14s. 6d. If they sell every week at this rate their returns will be worth (even at the present low tin standard) 20,000l. a year.

CRENER AND WHEAL ABRAHAM SALE.—A three days' sale was held at these mines on Monday, Tuesday, and Wednesday, Mr. W. J. Johns, of Truro, auctioneer. The attendance was good throughout, and the materials were sold at average prices. None of the engines or machines were offered or sold; they remain to be sold by tender. Mr. Waddington bought the floors, including seven round biddles, for 52l. for Wheal Agar. Mr. Lanyon bought several heavy lots of timber. Capt. Hosking bought the weighbridge for 25l., for Treleigh Wood. Cast-iron brought about 3s. per cwt. Messrs. Mitchell and Co., Capt. Rich, and Messrs. Clymas and Latoro were also large purchasers. —*West Briton.*

Meetings of Public Companies.

BAILEN COMPANY.

The general meeting of shareholders was held at the company's offices, Queen-street-place, on Thursday.

Mr. WILLIAM COX in the chair.

Mr. H. SWAFFIELD (the secretary) read the notice convening the meeting, and the report of the directors, previously circulated, was taken as read.

The CHAIRMAN, having declared the meeting duly constituted, said that the shareholders having taken the report and accounts as read, he had to ask them to pass a resolution that they be received and adopted. He had very few observations to make, but would say that he had still great faith in the concern, and he could not give a better illustration of the probability of its proving successful than the fact that the vendor, their managing man at the mines, refused to sell any of his interest, and purchases were made in this country for people near the mines to whom Mr. Poole had declined to sell. He had himself put further money into the concern since the company was started, and was prepared to put in more, for there was no doubt that they would require more money as soon as it was proved that they had a mine. He fully believed that they had good prospects of success, and that the mine was equal to what the Linares was 23 years ago. They must get down to the 20 fm. level before they could form any opinion as to what course should be pursued, and he would remark that he believed that in nine tenths of the mining companies which proved unsuccessful the money had been lost because not enough capital had been provided to make a fair and proper trial of the mines. In their case they had erected machinery which would save any more expenditure for some years. He hoped he would be able to confirm the good opinion he now entertained when they met in 12 months hence, and even before that, perhaps in two or three months time, they would have made such progress as to be able to say that their hopes had been fulfilled. When they had proved the existence of a really productive mine more money would be required, and so far as he was concerned he would be quite ready to supply his proportion.

Mr. TAYLOR had much pleasure in seconding the Chairman's proposition, and at the same time would express his strong faith in the test they were now making. They had two very rich mines in the district, and one of these coming west towards them was richer than it had ever been previously. Their own mine was in the same description of rock, and they were down to the kills, which had proved productive. There was little doubt that they were on the same lode or a parallel lode, and it did not much matter which so that they had a good prospect, yet they must not expect much at the 20 fm. level, and he would be quite satisfied if they had what he should call an encouraging lode—good enough to encourage them to go on. He would not be dissatisfied if the 20 were only promising, but would be much disappointed if at the 20 they had not a good lode. Of course, they could not predict with accuracy what would be the result, but they had certainly so far had confirmation of the views they held when the company was formed.

The resolution for the reception and adoption of the report and balance-sheet was then put to the meeting, and carried unanimously; Messrs. Cox and Abercrombie were re-elected directors, and Mr. Jepps was re-appointed auditor, a cordial vote of thanks to the Chairman and directors terminating the proceedings.

MELLANEAR COPPER MINE COMPANY.

The first ordinary general meeting of shareholders was held on Thursday, at the offices of the company, 6, Queen-street-place, Mr. R. HENTY in the chair.

Mr. W. G. WILLIAMS (the secretary) read the notice calling the meeting.

The CHAIRMAN said that the present meeting was held for the purpose of complying with the Articles of Association. The company was registered on April 15 last, eleven months since, but as the mine had actually been in operation a much less time than that, it was thought desirable that the general reports and accounts should be postponed until they had completed the year's working, and a resolution to that effect would be proposed presently. In the meantime good progress had been made with the works, and everything was going on in a satisfactory manner. There was a short account of expenditure up to the present time, but it was not thought desirable to furnish any general accounts until they could give the year's working. The capital received was 7993l. 15s. The ore sales were 2395l. 14s.; the sundry receipts, 127l. 13s. 5d.; the expenses were for preliminary expenses, including law charges and advertisements, 690l. 15s.; the mine cost 7899l. 14s.; the management in London and office expenses and sundries, 307l. 16s. 2d.; together 8808l. 8s. 4d., leaving a balance of resources of 1708l. 14s. 1d. Mr. Taylor would give them some particulars as to the progress of the mine.

Mr. RICHARD TAYLOR read, and commented upon, a report that had been received from Captain Gilbert. Perhaps the shareholders might ask why the driving of the 30 fm. level, which was poor, had been continued? The object in driving it was to extend it until it reached the ground in which fine courses of ore were found in the deeper levels. It was known that little or no ore had been met with until the levels going westward from the old shaft had passed through the cross-course; they had only lately intersected the cross-course, and recently passed through it, and had found the lode on the western side of the cross-course producing a little copper ore, but nothing of value, but there was strong reason to believe that as the level advanced over the productive ground they would meet with ore in the 30 fm. level as well as in the other. The next level was the 50, where the main lode had been discovered 2 ft. wide, with well-defined walls, and producing good stones of copper ore. That 50 fm. level was driven through good ore ground, until they met with another cross-course which disturbed the lode for a time, but it had since been discovered, and, as he had said, was a very promising lode. The lode in the 67 fm. level was worth 4 tons of ore per fm. They had lately been making a rise from the back of that level, to get up to the 50 fm. level, and in that rise the lode was producing 3 tons of ore per fathom. They were sinking a winze in the bottom of the 50 and in the bottom of the 67, and had communicated it to the 75. They had been obliged to use every effort to get the winze made, because the mine was in a lamentable state as to ventilation, the air being so bad that the men could not do half work, and it had been a great point to make a communication which would give good ventilation throughout the mine. They would at once proceed to sink below that to the 85. This winze would be commenced at a point where the lode was worth 3 tons of ore per fathom. It was right to say, although the directors were very well satisfied with the manner in which the mine was opening, and there was ore in almost all the levels driven, yet none of them had come up to the reports handed over by their predecessors. The produce of the vein had been considerably overrated, but still it was ground which would pay exceedingly well. It was an easy and inexpensive ground for driving, producing 3 to 4 tons per fathom, and would, no doubt, be profitably worked by-and-by, and the quality of the ore proved to be better than was anticipated. The dressing of the ore had been somewhat improved, and there was no doubt it was the somewhat defective dressing which formerly prevailed which gave the ore the character of being of inferior quality. One of the recent parcels of ore showed a better percentage than the best parcel of West

Tolgu, which was considered one of the best mines in the country. The lowest level which had been driven was the 80, which was producing 3 tons of ore per fm. In the 78 they had reached Gundry's shaft, and had had a good course of ore to the point at which they met the cross-cut driven to communicate with it from the shaft; it was now producing 4 tons per fathom. The best level was now going west from Gundry's. The progress of the 78 west soon convinced us that the lode passed considerably to the south of Gundry's shaft. He was happy to say that passing west of the shaft it continued its productiveness, and immediately they were satisfied of the fact they resumed the 60 and 70 cross-cuts, which were commenced by the predecessors of the present board. These had been pushed on, and they had the pleasing information to-day that in the 70 the lode had been intersected about 5 ft. wide, producing 2½ tons per fathom, which was a most satisfactory feature of the present position. There was no change in the 60 fm. level cross-cut, but they were expecting to cut the lode almost daily. The winter had been unusually wet, and the engine had been worked 13½ strokes per minute, but the water had now fallen back to 11½ strokes per minute, and all the machinery was working well and satisfactorily. On the whole, the state of the mine was perfectly satisfactory, and the directors were confident of being able to work it at a profit. A large quantity of ore ground had been discovered and laid open, and the returns could be increased at any moment, but we have thought it wise not to do that until we could do it with the greatest advantage in point of economy and convenience. They must make the ventilation perfect, and provide the most convenient means for bringing the ore to the surface and for dressing it. Towards Midsummer he hoped they would be able to largely increase the returns.

The retiring directors were re-elected, and the meeting was then adjourned to a day to be named by the directors after June 30 next.

After a vote of thanks to the Chairman, the meeting broke up.

LLANRWST LEAD MINING COMPANY.

The third ordinary general meeting of shareholders was held at the offices, 85, Gracechurch-street, yesterday.

Captain GILBERT in the chair.

Mr. EDWIN CARTER (the secretary) read the notice calling the meeting. The report of the directors was taken as read.

The CHAIRMAN, in moving the adoption of the report and accounts, and also the report of Capt. Knapp, said that those documents were so full of details that it was unnecessary to detain the meeting with any lengthened observations, because any questions relating to the mine would be answered by Capt. Knapp, who was not only an experienced miner but also a gentleman who would be able to give the shareholders every possible information. In the original notice convening the third general meeting the directors stated that they proposed postponing the meeting until such time as they had visited the property, as great alterations had been made since the last general meeting; and, therefore, they thought it desirable to see what had been done on the mine, and also see the new engine-house, and how the new engine worked. The directors accordingly visited the mine, and the result of the visit was in every respect satisfactory. The progress which had been made was most gratifying. He personally had the opportunity of judging of the state of the mine underground, and saw the various lodes and how they were opened up. He had seen the underground workings three years previously, and on his last visit he was amazed to see the quantity of ore which had been discovered, and the clearing character of the level. Adverting to the balance sheet he expressed a certain amount of regret that it had not been sent out with the notice calling the third general meeting, but owing to the indisposition of the late secretary the work had fallen a little into arrears, and when the new secretary was appointed there was such a considerable amount of work to be done that it was found impossible to get out the balance sheet in time to send round with the notice of the meeting. Again, the late auditor had left London, and the directors had to appoint another gentleman—Mr. Swaffield—to audit the accounts. In those accounts one thing might appear to the shareholders not altogether satisfactory, and that was the amount which appeared as due at the mine, but he must inform them that when the report was made out, which was up to November 30, the mining accounts of that month were due both for merchants' and labour account, and it was not the habit of the directors to pay those amounts until the 7th or 8th of the next month, which would account for the large amount which appeared as due at the mine. Everything was paid up at those dates, and he must say he thought everything connected with the finance was carried on in a way which spoke well for the management of the mine. He did not know that there were any further observations which were necessary. He might refer to the great commercial depression which had existed, which made it very difficult to obtain money to carry on such operations, owing to the great want of confidence which existed in joint-stock undertakings; therefore, he thought they might congratulate themselves that the company was supported by men who had confidence in the mine, and took up the shares of the company, and thereby enabled the directors to carry on the work, so that shortly they would have ore to sell. In conclusion, the Chairman moved the adoption of the report and accounts.

Mr. GREGORY seconded the resolution. The resolution was put and carried without any discussion.

The CHAIRMAN next proposed that Mr. Henry Swaffield, of No. 5, Queen-street-place, be re-appointed auditor.

Mr. J. P. ENDEAN: I beg to second that. I have known Mr. Swaffield for a great number of years, and when I tell you that he has been the auditor for nearly all the companies in connection with Messrs. John Taylor and Sons I think it will be satisfactory to the shareholders to elect such a gentleman as that to be auditor of this company. (Hear, hear.) Therefore I have great pleasure in seconding the proposition.

The resolution was put and carried.

The CHAIRMAN moved that Major de Winton be re-elected a director. During the time he had been on the board Major de Winton had been an agreeable colleague to work with, and had done all in his power to promote the welfare of the company.

Mr. SCOTT seconded the resolution, which was put and carried.

Major de WINTON, in acknowledging his re-election, said it had been his duty and it would be his endeavour to do everything in his power to promote the welfare of the company. The directors came away from the mine, and their recent visit, with the conviction that in the Llannwrst the shareholders possessed a very valuable property, and one destined to yield its treasures not only to the present shareholders, but also to their successors' successors. (Cheers.) That was the conviction of gentlemen of great experience in mining matters, and it was especially proved by the fact that one large shareholder was ready to come forward and find the money for the cost sheets and the merchants' bills. There was one important point to which shareholders always looked, and that was the payment of dividend. Now, it would have been easy any time during the last 12 months for the directors to have given a spasm of impetus to the value of the property, and doubtless that would have been a point which many operators on the Exchange and operators in mines would have viewed with some favour. He was not speaking in any way in disparagement of those gentlemen; on the contrary, were it not for them many enterprises of this sort, and many enterprises of great faith and promise, would not only have lost all name of action, but would never have been born at all. But the directors thought it was better to work systematically and regularly, and in a miner-like manner, so that when once they thought about a delivery of ore to the market the dividends would not only be regular, but progressive. From all he had seen he could only say that he looked forward to the time when Llannwrst would take its place amongst the most favoured investments of the mining markets of this country. (Cheers.)

The CHAIRMAN said that Capt. Knapp would now be happy to answer any questions which any shareholder might wish to ask.

Mr. HERON asked where the rich specimen on the table came from?

Capt. KNAPP: From the bottom level, the same that you and Mr. Thomas examined when you were there. It may look a little brighter than when you were there, but I do not know that it is.

Mr. BOWNESS asked what amount of ore per month they might expect to place upon the ground in future, when the steam engine was in proper working order, as he believed it was at the present time? He thought that the works ought soon to be in full progress, without any future delay.

Capt. KNAPP said that as soon as the crushers were finished, and dressing floors raised, they could commence with 50 tons per month; and at the end of the year they could, by emptying the engine-shaft and opening it up, put out 100 tons per month.

Mr. BOWNESS thought there had been some delay in the putting up of the necessary apparatus.

Capt. KNAPP said there had been no delay whatever. They had to excavate the ground for the erection of the engine-house, and after the excavations had been completed they had to excavate the ground for the dressing floors, and the two works went on simultaneously. There had been no delay except what was occasioned by the weather, and this company, as almost all similar companies, was subject to delays from the bad weather. In some mines the masons had only been able to work an hour or two in the week. He had pushed on the work, and done everything he could; the mine had not been worked in pieces and sections, but all the work which was possible was carried on simultaneously.

A SHAREHOLDER asked whether 50 tons a month would pay a dividend?

Capt. KNAPP said it would not. They would begin with that; they were in a position to return 100 tons a month, but it would take some time to finish the dressing floors. They had done no stopping, all the stopping ground was intact. The levels had gone through, and they had opened up nearly 60 fathoms of lode ground upon the counter lode, which was upon virgin ground, and which would yield from 2 to 2½ tons of lead per fathom. The 60 fathoms of driving would give 600 fathoms of stopping ground, which had to be added to the reserves, none of which had been sold. They were in a position to return 100 tons per month now, but, as he had said, the dressing floors were not ready, and it would take time to do that. He pointed out that the erection of the temporary or flimsy work would be very prejudicial to the real interests of the mine. Everything which had been done hitherto was of a character adapted to the future of the mine. Labour was a considerable and expensive item in this part of Wales, and the directors were doing all they could to erect good mechanical appliances, so as to avoid being embarrassed by a scarcity of labour. The apparatus already put up was adapted not only for present purposes, but for future contingencies as well.

Mr. DOWLING asked when they might expect a dividend? —Major de WINTON said no one was more interested than the directors in the declaration of a dividend,

and the shareholders might rely upon it that the board would declare one as soon as possible.

Mr. BOWNESS asked how it was that the meeting was called for Sept. 30 last, when the directors had no information to give the shareholders? —The CHAIRMAN: I can easily explain that; under the Articles it was necessary to call a meeting within the year, but we did not give you any information as the engine was not then working, and our object was to see it at work, and see if it worked satisfactorily in every way.

Mr. BOWNESS said the company had already received 45,000l., and he could not see why there had been any delay in erecting the engine and putting up the dressing floors.

The CHAIRMAN said Mr. Bowness was wrong in supposing that 45,000l. had been received. There was a great difference between nominal and real capital. Mr. Bowness was mistaken in the amount of money which he supposed had been put into the property. As a matter of fact all the purchase money, with the exception of 4000l., had been taken in shares, and the directors had not had more than 4000l. to work the mine with. Anyone who had had experience in mines knew that few mines had paid dividends within a less period than this company had been in existence, and this company would be happy if it were able to do it next year. For his own part he had confidence that they would be able to pay a dividend in the next six months. The object of the board was to make the property remunerative, and work the lodes and properly develop them. The leading mine in this county, the celebrated Van Mine, was worked for seven years before any dividend was paid, and this company had not been at work more than three years. Looking at the results already achieved in this company, he thought the shareholders had every reason to be satisfied. (Cheers.)

A SHAREHOLDER asked if all the shares of this company issued? —The CHAIRMAN: No, they are not. I intend to bring that subject to the notice of the meeting.

Mr. MAYHEW asked what amount of money was necessary to bring the mine into a dividend-paying condition? —Capt. KNAPP said about 4000l.

Mr. MAYHEW said that, as a matter of fact, the mine had been living upon itself, and was like a man who took the profits of his business to live upon. There was no doubt now about the richness of the mine, and he advised the shareholders to combine together and take up the balance of the shares, so as to place the mine in funds to return ore and pay dividends. The mine was practically irretrievable, and, if necessary, he should be prepared to move a resolution that the directors be requested to call upon the shareholders at once to take up the unpaid portion of the shares, so as to place the mine in the Dividend List. He should be prepared to take up his portion.

Mr. J. P. ENDEAN said the apparently small amount of money at the bank would, after the statement he was about to make, be seen to be a matter of not much moment. The accounts were up to Nov. 30; since then the December costs had been paid—merchants' bills, labour costs, and so on—to the amount of about 4000l. Hence the shareholders were asked to take shares at a certain discount, but they did not respond, but one shareholder, who already held a largely, and had great faith in the mine, turned up and expressed his willingness to take the shares, not all at once, but as the money was required. As he had stated, the working costs for December had been provided for, and the same mark applied to January and February, and the March bill would also be provided for when the time for payment became due; therefore, if they had a banker who would provide the working capital, it did not matter whether the money was in Capt. Knapp's bank or any other bank. He went on to say that he had been underground at the mine, and he was satisfied from the commencement that there was mine of wealth there; and every time he had visited the mine he had seen more and more convinced of its importance and value. The Llannwrst Mine would be a mine of great renown, and would not be far behind the Van. There were gentlemen present who knew the gentleness of the ore ground and the excellence and richness of the lodes, and he ventured to predict that within six months from the present time a dividend would be declared. He congratulated the shareholders and himself in being connected with so valuable a property, and the more the shareholders were connected with the property, the more the mine they would be convinced that Llannwrst was a mine, not for the present, but for the future. So great was his confidence in the mine that, if the shareholders did not take the remaining shares, he would take them himself. (Cheers.)

The CHAIRMAN said that the directors were now in a position to come before the shareholders and ask them to take up the unpaid portion of the shares for the purpose of developing the mine. It was proposed to issue those shares at 10s. prem.

Mr. J. P. ENDEAN, in answer to a shareholder, who made a remark relative to the quotation of the shares in the *Mining Journal*, said that, although business might be quiet at having been done, as a matter of fact there were no transfers coming in, so that in reality the business quoted had not been done at all. He referred at some length to the means resorted to by certain dealers, by means of advertisements and otherwise, to depress the price of the shares, so as to frighten shareholders out of their shares, and put the money in their own pockets. It had been positively stated that the Llannwrst Company was a syndicate company, and some of the shareholders had been frightened out of their shares. He had also stated that the company was an unlimited one, and not registered, and he had actually, in order to set some of the shareholders right on this point, been obliged to write to them asking them to look at their scrips. He had also stated, and so had the Van when in its earlier years, when people made attacks upon the property with the view of getting the shares. He cautioned the shareholders not to have dealings with those gentlemen who advertised the shares for sale at a cheap price, which was merely done for the purpose of alarming shareholders into parting with their shares, and said that if an offer were made to the dealers to take the shares at the cheap price quoted it would be found that no shares could be obtained.

The CHAIRMAN: I can confirm that; my attention was drawn to some shares advertised in the *Mining Journal* at the low rate of 20s., and I went to secure them, but from that moment I found I could not get them.

In answer to Mr. BOWNESS, the CHAIRMAN said the shares would be offered at a rate among the shareholders.

Mr. DOWLING said that before the meeting separated he wished to propose a very cordial vote of thanks to the Chairman and directors for the very able way in which they had managed the affairs of the company. —Mr. W. WARD: I beg to second that. I think the thanks of the shareholders are due to the directors for the way in which they have conducted the business. The resolution was carried.

Mr. ENDEAN said he could not allow the meeting to close without proposing a very hearty vote of thanks to Capt. Knapp, who had from the first exercised his confidence in the mine, and had, since he had been in charge, worked it in such a miner-like manner. There was no doubt that Capt. Knapp was one of the best and most practical miners in Cornwall, and the shareholders might feel perfectly confident that he would do everything in his power to promote the welfare of the company. (Cheers.)

The Hon. R. STEWART seconded the resolution, which was put and carried.

Capt. KNAPP, in acknowledging the resolution, said he had made it his business to develop the mine in the most creditable way for himself, and he was most profitable to his employers. He had given his whole time and attention to it. They had discovered rich ore in quarters of the mine where they had scarcely any reason to expect it, and the higher they drove the better it became. Of course, the Van Mine was an exceptional mine, such a one as was scarcely to be found in a generation, but he was quite sure that next to the Van they would in the Llannwrst have one of the best mines in the district, provided it continued to open up as at present, which there was not much doubt it would continue to do. As far as he was concerned, he would not rest until every effort would be made on his part to make the mine a thorough success. (Cheers.)

The meeting then broke up.

THE VAN MINING COMPANY.

The meeting of shareholders will be held on Tuesday, when the following report will be presented:—

The directors of the Van Mining Company (Limited) have much pleasure in submitting to the proprietors the accounts for the past year, duly vouched and signed by the auditor.

As the entire expenditure has been charged to revenue the capital account shows the same amount to credit as before—1111l. 9s. 1d.

The sales of lead ore were 6850 tons, realising 2,925l. 2s. 6d., an average of 12s. 6d. per ton, showing an increase of 14s. over the previous year.

The sales of blende ore were 2490 tons, realising 9533l. 7s. 6d., an average of 3l. 18s. per ton, an increase of 510 tons over the previous year.

The rent derived from the letting of workmen's cottages produced 168l. 10s. 6d. These receipts together amount to 112,727l. 6s. 6d.

The expenditure, comprising labour, merchants' bills, royalty, rent, machinery, rates, income tax, law and other charges, amount to 62,540l. 4s. 4d., which taken from the receipts shows a balance of 50,187l. 2s. 5d. as the net profit upon the year's working.

The quarterly dividends declared and paid amount to 49,500l., leaving 577l. 2s. 5d. which is carried to credit of reserve, thus raising the reserve fund to 4735l. 18s. 8d.

During the year a very powerful pumping engine (70 in. cylinder) has been erected, capable of carrying the shaft down to a great depth; additions have also been made to the plant and machinery, which has added materially to the expenditure.

The mine has been prosecuted with the utmost vigour, is maintained in the highest possible condition by the manager, and the directors look forward with the greatest confidence to its successful development in the future.

Mr. Robert Alder, retiring by rotation from the board, is eligible for re-election. The auditor, Mr. W. H. Wainey, retires as usual, and offers himself for re-election.

WHEAL OWLES.—At a meeting of adventurers, held on March 9, the accounts showed a debit balance of 22,342l. 5s. 7d. The balance due to the bankers (Messrs. Balitho, Sons, and Co.) now amounts to 22,342l. 5s. 7d., including interest to Dec. 31. The work performed during the 16 weeks was 107 fms. 3 ft. driven in levels, and 75 fms. 1 ft. 2 in. sunk in shafts and winzes; 37 paces were stopping for tin on network, and 13 pitches working on tribute. At the dinner, Capt. Boyes explained that sufficient tin had been raised during the quarter to pay the costs of the mine, the unpaid portion of the amount being added to the stock. To correct some mistake made that had found their way into print, he thought it right to say the previous account of commencing to stock when tin was 78s. per ton, the last price he had quoted to stocking was 82l. 10s., but before 80 tons had accumulated the price had dropped to 50s. He subsequently sold 100 tons at 54l. 10s., and made a considerable profit by doing so. It was, therefore, scarcely fair to say he had actually commenced stocking tin at anything over 50s. per ton, and he still was not without hope that it would prove "a paying game after all." An unusually numerous company sat down to dinner, and after the toast of "Success to the mine," Captain Boyes gave his usual report of the operations. The prospects are encouraging, the mine having generally improved since the last account. Having gone minutely through the various points of operation, Capt. Boyes spoke highly of the drilling and the condition of Capt. Thomas Troger, who had driven 200 fms., and hailed to within 6 ft. of the place it was his object to reach. Again repeating that Wheal Owles was doing as well as ever, and only wanted a better price for its tin, he proposed with heartiness and sincerity the toast of the day.

[For remainder of Meetings see to-day's Supplement.]

A petition has been presented to the High Court of Justice for the winding-up of the Ransgill Mining Company (Limited).

A petition has been presented to the High Court of Justice for the winding-up of the Birchgrove Graigola Collieries (Limited).

Original Correspondence.

CAPTAIN TREGAY, AND PEDN-AN-DREA MINES.

SIR.—Having been interested in these mines I have read the correspondence between Mr. Granville Sharp and Capt. Tregay with some attention, and I would not have troubled you on the subject had it not been for Capt. Tregay's extraordinary letter in last week's Journal, in which he entirely ignores the real question, and seems to act on the motto, "No case, abuse my opponent."

Capt. Tregay gives me an extract from a letter he has received from a gentleman who he says was the largest shareholder, but from others may know more of the facts than even he does. Will Capt. Tregay explain how it happens that after many years of working the mine under his management with a very heavy loss (about £100,000) up to the end of July last, when the late company transferred the property, he is able (as reported) within a few months afterwards under his own proprietorship to increase the returns and make what is called good profits, even with a lower price of tin? Will he also favour us by saying whether it is a fact that tin is being made (and to what extent) after clearing every profit due, &c. &c. Also will he state whether any deadwork was done at the expense of the late company, after it was known the property was to be sold, but which work could be of no benefit except to the incoming purchaser?

I would just add one fact—that to meet the loss of the final 13 months of working by the late company no less a sum than £18,830 was made in calls upon the unfortunate shareholders, and it was under these circumstances that Capt. Tregay advised (if he did) the old company to carry on; and in his report, sent to the shareholders in March last year, he said, "The price of tin has been dead against us for a long time, and for any prospect of successful working we must look to a rise in the price of this article of produce." I hope Capt. Tregay will stick to the point in answering his letter. —March 15.

(For remainder of Original Correspondence see this day's Supplement.)

FOREIGN MINES.

CAPE COPPER MINING COMPANY.—The directors have declared a dividend of 20s. per share, free of income tax, payable on the 24th inst. The transfer books of the company will be closed during the 17th inst.

RICHMOND CONSOLIDATED.—Work from the mine at Eureka, Nevada, has been resumed. The drift of the 900 ft. level has been resumed, the drift is in quartzite, and easy ground for working. The 800 drift has been sunk, and a drift has been started 70 ft. back from the end, on a small scale; it is now widening, and is looking very favourable for ore. The No. 1 winze, on the same level, has been sunk 10 ft. from the drift, 30 ft. below the 800. The bottom of the winze at present is in low grade ore, with occasional stones of good quality. The 700 drift has gone through the shale and into the limestone. We expect to strike ore in this drift soon. The 600 drift is very much improved since put to strike ore in this drift. The distance drifted is 80 ft., and my list.

We have drifted across the ore body, the distance drifted is 80 ft., and my list. There appears to be a large body of ore at this point. We are going to sink a winze to the 700 immediately. There is nothing new in the stopes or any other part of the mine. All the furnaces are in good working order. The ore is of low grade, and the returns are low in proportion. The ore is of low grade, and the returns are low in proportion.

CHICAGO (Silver).—Telegram from the general manager: We have run two furnaces 23 days. Not profit for February, \$2,000.

CHICAGO (Silver).—Telegram from Frank Ellis: Full supply of water since March 1. Washing, Reed and Thos.

CHICAGO (Silver).—The clean up at the Original Amador Mine for the month of February is estimated at \$7500.

SILVER BUTTES.—Result of the working at the Sierra Buttes and Plumas Eureka Mines for February. Receipts, \$29,664; total California expenses, including cost of mining and milling, \$18,383. Plumas Eureka: Receipts (including sulphuric acid), \$42,922; total California expenses, including cost of mining and milling, \$18,127.

CHICAGO (Silver).—Telegram from Mine Captains, Jan. 31: The ore has been extracted from the following places:—No. 5 and 6 shoots in back of Alice's. General work of a low quality. No box work available. Stopping operations have been carried on much the same as when last reported on, although general work has fallen in quality. The lodes are very fluctuating; sometimes rich deposits are met with on these shoots. The north driving on No. 5 shoot is being continued with all speed, and moderate samples are obtained. The incline rise in No. 6 shoot, in back of the 300 cross-cut, and No. 4 shoot, in No. 8 shoot, are being continued with a small force. The water drawn from the mine is 2250 cubic feet per minute. Sinking has been carried on very slowly, in consequence of insufficient surface water for Dawson's wheel. Prospective and Running Work: The repairing of Vivian's shaft is being continued from surface down, the force not being at the horizon of Alice's. Timber for same is brought in from the company's matins. Another strake has been put to work at the reduction. These two strakes, with the jiggers, we hope will be able to treat all mineral coming from the mine. All other running work is being kept on as usual.

Capt. Vivian, Feb. 4: The produce for January amounts to 4327 lbs., which is less than was anticipated at the early part of the month. Mine Alice's West: The lodes here still produce an ample supply of mineral for the reduction department, but during the latter part of last month the quality has not been so good. I do not attach much importance to this, as the lodes in general, as you know, are very changeable in value, although size and appearance do not alter. Sinking is still slow, through want of surface water at times and so many breakages.

Capt. Vivian, Feb. 10: All works in connection with the erection of the permanent pumping machinery and in the mine are being pushed on as fast as possible, but there is not so much progress made as I could wish, in consequence of small force and the roads being so bad in consequence of heavy and continual rain, which interferes very much with the transport of the heavy timber required. Portions are also scarce, and exceedingly dear for same reasons.

Telegram from Mine Captains, Feb. 15: The ores extracted have been derived from the following places:—No. 5 and 6 shoots in back of Alice's; a little also has been taken from the No. 4 shoot in No. 8 shoot; nothing of any consequence being taken from No. 6 shoot in bottom of mine, in consequence of force. General work of a low quality. The five stopes in back of Alice's, on No. 6 shoot, being continued, lodes not being so productive as it was about a month ago. No. 5 shoot: Appearance of the shoot of lode referred to, we expect a change soon. No. 5 shoot: Stopping has been carried on without change to note. Drainage: Water drawn from the mine is 2250 cubic feet per minute. On the 1st inst. the wire rope parted which works sinking lift; sinking suspended 5½ hours. Water again put in fork on the 2nd, and sinking resumed. On the 3rd, the set off broke, which is connected to main rod in vertical shaft to 6 in. lift, water rose to the 35 ft. plat; water again put in fork on the 4th, and sinking commenced. On the 5th, a cutter, which belongs to two pits at pump, was jammed; in consequence of this the carriage which works in front of wheel got off its track. Water again put in fork on the 6th. On the 7th, another set was fixed in sump-shaft; this shaft is now suspended, and the force removed to re-open the shaft from the 35 fathom horizon downward, which will require 3 fms below the 35 for fixing our 15-in. plunger. This work is being carried on with all speed. Prospective and Running Work: A ladder road has been fixed in cuprin shaft, from Alice's to add level, which is consequent in going from Alice's to the bottom of the mine. The driving, going towards Vivian's shaft, from add, is progressing satisfactorily. The repairing of Vivian's shaft being kept on as usual, and all other running work.

Telegram from Rio, March 11: Produce for February, 3,300 cts.

CONDOS DE CHILE.—James Seacombe, Jan. 20: On the 25th inst. I sent you a telegram announcing a great improvement in the lode in Batters' shaft, then worth 700, per fathom; since then it has further improved, and is now worth 1000, per fathom. Other points are without alteration to notice. The operations generally are progressing satisfactorily.

ALBANY.—Capt. Coward, Feb. 1: Timber: Since writing last I have received tin enough to resume the putting in of the essential pieces for fixing the Pique pitwork. Another lot is expected by the end of this week, and the remainder will shortly follow unless anything unforeseen turns up to prevent it. Progress made in the Erection of Pitwork: The erection of the four hoists at the surface is completed. The angle bob is fixed at Monti plat. All the rods are secured and fixed in the perpendicular shaft from surface as angle bob. The shaftmen are now engaged in cutting hitches for the set of catches. As said in previous letters, little time will be occupied in putting the pumps to work after the arrival of the timber. Pique Underlay Shaft: The shaft is sunk below the 44 about 2 fms., and the shaftmen by the end of this week will finish cutting trip shaft. We shall be unable to resume sinking below fixing the lift owing to the increase of water. The lode has not been taken down and is standing to the western side of the shaft for fear of cutting more water, so as to prevent the cutting of the plat. The 44 north is without change. For the last 10 days it has been suspended, the men having been put to breaking ore, &c. The 44 south has been driven in the pyrites referred to in last letter 6 ft. The width of the lode we cannot yet say, not having cut through it on either side of the level. The promised assay has not yet been made, Mr. Hosking, who has had time. In the stopes in the back of the 44 north we have stopped some very good ore, which has not been very favourably in the amalgam produced. A strong force of men have been employed filling under this place with a view to secure the weak ground overhead, and to enable the putting up of a rise so as to command some rich ore said to be standing over this place. In a few days the rise will be commenced. The stopes north of Cano which shaft continue without change. The same remark will apply to the other stopes. I have had no intelligence of the whereabouts of Oxlard's calciner, but apprehend it is not being nearer the end of San Juan. Probably the rain is the cause of its not being nearer the end. I hope the brick oven will be ready in time; but from the advice received from Iglesia the rains have also retarded this work. The masons who completed the Pique masonry have been working in the quarry getting quads for the masonry of the calciner. We shall have to stop the reduction department during the greater portion of the time required for fixing the pitwork at the Pique. During this period the reduction force will be employed making the necessary excavations for the calciner and third baffle. Our force is gradually augmenting, but we are a great number short of what is required.—Reduction Department: The stopes, owing to causes stated in my letter of the 20th ult., were idle from the 10th to the 21st ult. inclusive. The amalgam obtained up to the present date, the 30th, is 465 cts. 2 dwts; amount computed that will be obtained by the 3rd inst. is 625 cts; yield of gold computed, 148 ozs.

March 16: A telegram dated San Juan, Feb. 12, advises that Oxlard's calciner has arrived at the mines.

EXCHUQUER (Gold and Silver).—Lewis Chalmers, Feb. 10: Little underground work was done, as the old hoisting works were removed to make room for the new

gallows frame reels and sheaves. The new gallows frame is now in place, and the sheaves will be in a few days. The flat cable has not arrived, but I will manage to get along without it for a week or so. Mr. O'Hara and his partner are busy at attaching their machinery. Twenty five barrels of quicksilver were invoiced to me by last mail. I shall be ready to run as soon as O'Hara is. One of my teams is making daily trips to the mine for ore. Some fine ore is coming down in sacks.

I. X. L. (Gold and Silver).—Lewis Chalmers, Feb. 17: I enclose the foreman's report for last week, from which you will see that we have not yet struck the rich ore body, although I am in hopes of doing so every day. This proves only that the ore body dips at a greater angle to the north than I expected. That it is ahead of us I have no doubt.

Feb. 17.—The north drift is now in a distance of 474 ft. from cross cut in the 200 level. It is driven 50 ft. The said drift is running 30° west of north. The ledge, pitching about 50°, is in solid quartz, 4½ ft. thick, apparently medium ore, and is looking better as we go along. We have not been able to make the usual headway this week on account of the drift being all in hard quartz, the full width. The water in face let up some the last few days. The rise is now up 11½ ft. from drift, and is in fine lode matter all the way. The shaft pump has been the roughly overhauled, and is now working splendidly. The T pipe is put in at drain tunnel. The drain is ready to put on boiler to move. Everything in and about the mine is running and working well. —John Ryan, Foreman.

Feb. 17.—The 120, west of O'Hara's, is in the 120, west of O'Hara's, engine shaft, is unproductive, and in close proximity to the cross cut, which greatly influences the lode. A good length of profitable ground is being driven through in the 110, west of Judd's, worth 1½ ton per fathom. The 30, east of San Carlos shaft, is poor. The 40, west of Abercrombie's, has fallen off in value lately. The same level east is in moderately easy ground, and the lode yields ¼ ton of ore per fathom. The lode in the 60, west of San Pedro's shaft, is well defined, regular, and promising, and yields ¼ ton per fathom. The 70, west of this shaft, has also a favourable appearance, but is not so good as it was in the past month; present value ½ ton per fathom. In the same level east, we are expecting an improvement, as there was profitable ground in the level over it. The end is now worth ¼ ton per fathom. The 120, west of O'Hara's, also yields ¼ ton of ore per fathom. The lode in the 110, east of Addis's, is large, with good lumps of ore in the bottom of the level. The 90, in the same direction, is unproductive. The driving of the 80, west of Kennedy's, is suspended while the men sink a winze to hole to the last named level. In the 90, west of Kennedy's, the ground is easy for driving, but the lode is without ore at present. The 100, west of Lowndes' shaft, yields 1 ton of ore per fathom. The lode in the same level east is disarranged by a series of strong joints crossing the end. In the 90, east of Clara's, the lode, though better formed than it was, is still influenced by powerful cross courses; it yields ¼ ton of ore per fathom. The men in the 80, east of this shaft, are still cross cutting north to get under Santa Tomas shaft, which will be reached in the present month. Abercrombie's shaft, below the 40, is completed to the 50, and the men put to drive west on the course of the lode. The sinking of Santa Tomas shaft below the 70 goes on slowly. In Serrano's winze, below the 30, the lode is poor. Leon's winze will reach the 50 in the present month; valued at ½ ton per fathom. —Leon Sals, Feb. 17.

Feb. 17.—The 120, west of this shaft, is without improvement. The 110, west of San Carlos shaft, has passed through a strong cross course, and the lode on its western side has not yet been met with. The 130, east of Buenos Amigos shaft, is without a sufficient quantity of ore to value. The 130, west of Morris's shaft, is being driven through hard granite; lode of no value. In the same level east the lode yields 1 ton of ore per fathom. The 120, east of Cox's, is at present disarranged, and the lode quite destitute of ore. The 110, east of San Pedro's shaft, is still opening rich ground, worth now 4 tons of ore per fathom. The 45, west of Swaffield's, is without change. The 55, west of Edgar's shaft, has fallen off very much in value in the past fortnight, being now worth ½ ton only. The 65 in the same direction is unproductive. In the same level east an improvement has taken place, the lode being worth 1½ ton of ore per fathom. The 55 east is valued at ¼ ton per fathom. Palgrave's shaft is now deep enough for beacons and elevens. Quinta's winze, below the 110, is holed to the 120. Victoria's winze, below the 25, is worth 1 ton of ore per fathom. Alfonso's winze, below the 55, is holed to the 60. The sinking of San Miguel's shaft has been commenced. It is off the lode, and in hard granite. The weekly weighings of ore were well maintained during the past month, and the stopes are yielding ¼ ton well. The works at surface are carried on with great regularity. We estimate the raisings for March at 450 tons.

LANESEA.—March 10: Matienzo: The lode intersected by the 30 metre level cross cut has opened to 3 ft. wide, with regular wall dipping eastward, and composed of fluor spar, with stones of lead ore. It has a promising appearance, and levels are being extended on it to prove its character as quickly as possible, whilst a winze will be started directly there to room to test the quality deeper. The 30 metre cross cut has passed through loose masses of marly limestone with pebbles of clay, now in compact rock of same kind. The sinking of San Vicente shaft below the 30 metre level is being continued on eastern underlier, which is 2 feet wide, composed of fluo spar and fluor spar. The 30 metre cross cut, west of San Vicente shaft is in stiff, dark limestone. The lode in the 30 metre level, north on east underlier, at San Vicente shaft, is 2 ft. wide, made up of silicious shale, a little flake, and fluor spar. The lode in the same level south is of much the same character. The shale and sand is to San Vicente shaft, and is now being driven across it to take up the surface water. The lode in the 30 metre level, south on east underlier, at San Vicente shaft, is 2 ft. wide, made up of silicious shale, a little flake, and fluor spar. The lode in the same level south is of much the same character. The shale and sand is to San Vicente shaft, and is now being driven across it to take up the surface water. The lode in the 30 metre level, south on east underlier, at San Vicente shaft, is 2 ft. wide, made up of silicious shale, a little flake, and fluor spar. The lode in the same level south is of much the same character. The shale and sand is to San Vicente shaft, and is now being driven across it to take up the surface water. The lode in the 30 metre level, south on east underlier, at San Vicente shaft, is 2 ft. wide, made up of silicious shale, a little flake, and fluor spar. The lode in the same level south is of much the same character. 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Mining Correspondence.

BRITISH MINES.

ABERDAUNANT.—8. Toy, March 14: We are still engaged in cutting the new shaft down, by six men, with all possible dispatch. In the east part of the sett (Crownin), in the cross-cut driving towards the new lode, yesterday we met with a fissure extending from the middle of the forebreast to the roof of the level, and 2 in wide, which is discharging a large stream of water: we have broken from it some nice stones of barytes and spots of lead, and I think we cannot be far from the lode.

ASBETHON.—J. Craze, J. Manley, March 15: In the cross-course south at the 60, east of boundary, we have intersected a branch about 1 ft. wide, composed of quartz mixed with lead and blende, which lets out water freely. No lode has yet been taken down in the 50, east of Mawr. No change worthy of remark in any of the other bargains. We shall sample 30 tons of lead ore to-morrow (the 16th) for sale on the 25th inst.

BODIDRIS.—H. Motchkins, March 13. The 60 east upon main lode is rather easier for driving, and good progress is being made. The lode is large and promising; and in about 4 fms. further driving we should meet with the first run of ore seen in the level above. The cross-cut driving upon cross course towards Mae-y-pwll lode, progresses satisfactorily. The 45 east upon main lode is not looking so well, as we have not yet reached a level where the lode extends to about 100 yds. above the level, but the lode in the bottom of the level maintains its value. The rise in the back of this level, to communicate with the level above, is producing good stuff for dressing floors. In the 30 east, I have put the men to drive upon the north part of the lode; by so doing, I hope in a short time to meet with the Craiglog lode, in which we may occasionally expect a good discovery of ore. The stope in the back of this level is in a fine lode, producing very rich work. We are getting on well with the dressing, and have added con-

side-ably to the pile of clean ore.

BROSFLOYD.—Thomas Kemp, March 15: No. 3 Shaft.—North Lode: This shaft is in a regular course of sinking below the 110 ft. line, and the ground continues to be made slowly, and at fair progress is being made; this work is being pushed on with all energy possible. The lode in the stope to the east of the winze, over the 110, is about the same value as when last reported, worth 20 cwt. of lead ore per cubic fathom. In stripping down the lode to the west of ditto, going back towards the winze, the lode has improved, now worth for the width (3 fathoms) 15 cwt. of ore per cubic fathom. In opening the lode to the full width to the west of winze in this same level the lode is worth 20 cwt. of ore per cubic fathom. The tribute pitch over the 75 ft. line is about 75 ft. long, and from the 75 ft. line, from the east, going towards the middle lode, still continues exceedingly hard for opening, which renders progress very slow, hoping shortly to see a change for the better.—No. 2 Shaft.—Middle Lode: In opening on the branch which has gone off in a southerly direction to a point of about 11 fms. behind the 52 end, west of Lloyd's cross-cut, referred to in my last report, does not seem to improve, so I have put the men to stope over the back of this level, where the lode is worth from 10 to 12 cwt. of ore per fathom. The stope in the 40 to 50 east of shaft is improved, and worth 15 cwt. of ore per fathom. Hauling and dressing the ore will be done with a small sample to-morrow, 25 tons of silver-lead ore, for sale on Wednesday, the 21st inst.

CARROLL, 1891, p. 11, pp. 12, 13, 14. In the 24, east of Bowyer's flat-rod shaft on the caunter pit, the branch of lead is squeezed smaller than usual, but have no doubt it will open and become much larger again very soon; now worth about 8¢ per fathom. The 24, west of shaft, is a fine-looking lode, and very promising for an early improvement; worth 4¢ per fathom. The rise in the back of this level east of shaft is worth 25¢ per fathom—a very good lode. The 11, east of cross cut on the north branch, is improved; now worth 8¢ per fathom. The 11, west of cut, is worth 4¢ per fathom. The rise in the back of this level is worth 8¢ per fathom. The slope in the back of the 11, east on the caunter lode, is holes all to the adit level. This piece of ore ground is getting short; the lode worth 4¢ per fathom. The 24, west of shaft, is a fine-looking lode; this shaft is a masterly lode, and when last cut through was 10 ft wide. The part driving on is of a most promising character; it is producing lead, blende, some copper ore, a quantity of mundle, and carrying a fine floukan upon the lode, and I have no doubt but that there are large quantities of lead underneath.

CATHEDRAL.—J. Michell, March 12: I am very glad to say the lode in the two bottom ends, or 52, east and west of shaft, is improving in size, also more ore. The lode in the 42 end west is also improved in size, now $3\frac{1}{2}$ ft. wide, impregnated with ore throughout. The lode in the 42 east still continues in a fine gossan.

J. Mitchell, March 13: Both bottom ends—the 52—are being driven with all the force that can be brought to bear; the lode in each end is fully 3 ft. wide, mixed throughout with yellow copper ore, muncie, peach, and spar, and from all appearance will shortly strike into a good and lasting course of copper. All the other margins and tribute pitches are much the same as last reported on.

CLEMENTINA.—Wm. Bennett, March 13: We have a good improvement in the end of the lode, and the 25 is worth $\frac{1}{2}$ of lead per fathom, and, notwithstanding the appearance of the lode we may expect a greater improvement. The 23 and south is still worth 15 cwt. of lead per fathom.

COMBARTIN.—C. H. Maunder, March 13: The 15 west continues about the same as last reported; producing good quality silver lead and blende. We have cleared and secured Harris's shaft down to the back of the 28, but not sufficient to enter it, but we hope to do so in a day or two, and where it is said a good profitable lode will be seen for silver lead and blende.

CWM ELAN (NEW).—W. Gold-worthy, March 10: We have fixed the new pitwork, which is working well. We shall resume sinking the engine-shaft the beginning of next week with a full pair of nine men, at 22 $\frac{1}{2}$ per fathom, for the month. There is no particular change to notice in any of the other underground bargains, all being worked regularly, and yielding the same quantities of ores as reported you this day week. There has been a heavy storm, which has delayed the work in the surface. There has been no change in the surface work.

Grassing operations.—The weather has now changed. CWMYSTWITH.—March 14: Michell's level west, on the new lode, is 3 ft. wide, 10 cwt. of lead ore per fathom. In Michell's level east, on the new lode, the level is 5 ft. wide, producing good zones of ore equally well. We are sorry to state that the ground in Michell's cross cut north continues very stiff for driving. In the wine under Michell's level west the north part of the lode has been taken down for 1 ft. wide, poor. In the 12 east no lode has been taken down as yet, but we shall have it down before the end of the month. In the rise in the back of the Rosa level the lode is still worth 10 cwt. of lead ore per fathom. The new lode in Gill's upper level is 5 ft. wide, poor, and very hard for driving. The wide stop at Level Fawr, on the copper lode, has been hole'd up to an old working; it is impossible for us to say at present to what extent it has been worked up or westward, as it is filled with rubbish. The ore-stuff is all cleared out. We now have eight men engaged in blasting out the west end of the stop and stripping down the old level, where the lode has been taken down, but we cannot speak to the value of the stop. The stop in the back of the 24, on the King-fish lode, is 12 cwt. of lead ore per fathom. The tribute pitches are producing about the usual quantity of ore.

DE BKOKE.—J. Phillips, March 14: In Wilson's shaft the usual progress in sinking is being made, with no alteration as to the lode or stratification. The 35 east of Wilson's shaft, is in a large lode, producing a mixture of good saving stuff for dressing. I have altered the direction of the driftage, so as to prove the width of the lode, and to get under the winze sinking below the 25, on the south part of the lode. The lode in the winze just named is worth 12¢ per fathom. The stops at the 35 and 25 are, as near as can be estimated, at about the same value as for some time past. The stop to the east of the winze below all has improved. I intend to sink the lode one or two days next, on Friday next, the 13th inst.

DE RSBY MOUNTAIN.—Wm. Bennetts, March 13: There is nothing new since last report.

DERWENT.—*J. S. Torpeth*, March 12: I beg to write you the usual fortnightly report. Jeffries Shaft, Middle Vein: The 95, 40 fms. east of shaft, is yielding 10 cwt. of ore per fathom; vein 2 ft. wide. Over this level the five stops are yielding 20, 16, 12, 18, and 12 cwt., and the flats 35 cwt. of ore per fathom respectively; the vein in width averaging 4 ft. The cross cut at this level, opposite the 95, is yielding 10 cwt. of ore per fathom, and the vein is 2 ft. wide. The 93, 40 fms. east of ore per fathom, and the three stops in the bank are worth 24, 32, and 24 cwt. of ore per fathom respectively for the full width of vein, which averages about 8 ft. The cross-cut has been held out of rise at the top of great limestone into the 80, which has nicely ventilated the workings. The men have now been put to sink a slanting hole out of the cross cut at the 93 west with the cross cut that is being sunk towards the vein in the 95, the object of giving us an opportunity of trying in the 95, and to get the cross cut in the 93, and to get the shaft in the 95 all the way to the north win.—*Sun Vein*: No change whatever in the 7 cross-cut.—*North Vein*: The 50, east of Reed's, continues much the same, vein 1½ ft. wide, but no ore to value.—*Taylor's Shaft*: This shaft is now repaired to a depth some 10 fms. under the 30. The cross cut at the 4, 126 fms. east of shaft, is without change.—*Westgarth's Shaft, Middle Vein*: The 74, wherein the vein is 2 ft. wide, is yielding 10 cwt. of ore per fathom, and the flats 35 cwt. of ore per fathom. I depended until we get the shaft framing up, which is made and ready for lifting if we could only have a few calm days to do it in. The stope over the 74 is 1 ft. wide, and yielding 10 cwt. of ore per fathom. The 93, east of shaft, continues as before, 1½ ft. wide, and yielding 8 cwt. of ore per fathom. Last week we had a return of very wintry weather—great fall of snow, and frost for a day or two severe. I had a thaw on Saturday, which has since continued, and the snow is

DEER CREEK.—**GREAT CROSSELS.**—**J. Richards,** March 16; **Wheat Emma:** Inclined South. In Friend's cross-cut south, at the 137 east, the ground continues favorable, and good progress is being made. In Alford's cross-cut south, at the 109 west, a branch 5 in. wide has been met with, composed of spar and mundie, and water flows freely therefrom.—**New Shaft, New South Lode:** In the 175 east the lode has become smaller. It is 2½ ft. wide, worth 3 tons or 10¢. per fathom. This level is now about 5¼ east of the shaft. In the cross-cut south, at the 175, the south wall of the lode has been reached, and this, the south portion of the lode, will be the main source of supply. The lode is composed of spar and mundie, of upper ore and quartz 5 in. wide, worth 2 tons or 8¢. per fathom; and also a leaden or arsenical mundie, on the south wall, intermixed with a little ore. The men are now turned to drive east and west on the course of this part of the lode. In the 160 east from 4 to 5 ft. of the lode is being carried, worth 4 tons or 12¢. per fathom; a very promising lode. In Gorrell's winze, sinking below the 160 east, 5 ft. of the lode is being carried: worth for length of winze (9 ft.) fully 6 tons or 24¢. per fathom. In the 145 east 4 ft. of the lode is being carried: worth 1 ton or 4¢. per fathom. New Shaft, New South Lode, at the 175 east, 15 fathoms east of the shaft, the winze is in full course of sinking, in which about 25 fathoms of lode is being carried, which is yielding for length of winze (9 ft.) fully 9 tons, or from 35¢. to 4¢. per fathom. In Bickle's winze, below the 130, west of Treacy's cross-cut, the lode is 5½ ft. wide, and is gradually improving, a branch of ore having come into the winze from 2 to 4 in. wide. In the 130 east, and east of Treacy's cross-cut, from 4 to 5 ft. of the lode is being carried, which is worth 6 tons or 24¢. per fathom. In the west, and east of Killo's cross-cut, no lode has been taken down.

DEA-TA N.—**W. Williams,** March 14: "I have nothing particularly new to report this week, but I have been prospecting for a new lode—the drivings east and west work are kindly and likely to improve."

EAST WINDY LOVELL Richard, Quantrell, March 14: Fatwork: We have commenced opening the south side of the shaft, about 9 fms. below the 1-0, as mentioned in my last report. It is yielding a little tin, but we have not yet done enough to prove its character. We have reached the lode in the cross-cut north at the 17, and driven into it a ft., but have not yet got the north wall of the lode. As far as seen it is poor for tin, but of a very promising character, being similar to the 1-0. We have not as yet seen any good evidence of what we had commenced to drive east and want to see if we can meet with the outcrop of run of tin ground. We have also intend continuing the cross-cut, as we have found

another lode at surface about 4 fms. further north.—Tregonebris: The adit end west is looking much the same as last reported. The lode in the shaft below the adit is worth 12¢. per fathom for length of shaft (10 ft.)

FRANK MILLS.—James Rowe, N. Addams, March 14: Setting Report: The 115, north of engine shaft, to drive by the side of the old level on the east lode, by two men, at 3*l*. per fathom. The 100 to drive north of engine shaft on the east lode, by six men, at 3*l*. per fathom; the lode is producing 10 cwt. of lead ore per fathom. The 72, to winze in the bottom of the level to sink by four men, at 4*l*. per fathom. The lode is producing 8 cwt. of lead ore per fathom. No. 1 stop in the back of the level, by four men, at 1*l*. 18*s*. per fathom; the lode is producing 7 cwt. of lead ore per fathom. No. 2 stop, by two men, at 1*l*. 10*s*. per fathom; the lode is producing 6 cwt. of lead ore per fathom. To stop in the back of the 81, north of engine shaft, on the east lode, by four men, at 1*l*. 10*s*. per fathom. The 72, north of cross cut, west of boundary rise on the west lode, to drive by two men, at 3*l*. per fathom. The lode is composed of spathose, producing a little lead. The stop in the back of the 60, by four men, at 2*l*. 10*s*. per fathom; the lode is producing 8 cwt. of lead ore per fathom. The stop in the back of the 60, north of boundary rise, by four men, at 2*l*. 5*s*. per fathom; the lode is producing 6 cwt. of lead ore per fathom. The 45 to drive north of air rise, south of boundary cross cut towards the Exmouth part of the mine, by four men, at 4*l*. per fathom; the lode is producing a little lead. This level is being driven for ventilation. The new level, to stop in the back of the 45, north of boundary cross cut, north of Orchard air shaft on the east branches, by four men, at 1*l*. 18*s*. per fath.; the lode is producing 6 cwt. of lead ore per fathom. No. 2 stop, by four men, at 1*l*. 18*s*. per fathom; the lode is producing 7 cwt. of lead ore per fathom. A rise in the back of the main adit level, north of adit cross cut at the Exmouth part of the mine, by two men, at 3*l*. per fathom; the lode is producing good stones of lead and sinking kindly for an improvement. We have now completed the erection of eight improved plunger jiggers, which are now in full working order and answering admirably.

GAWTON COPPER.—G. Rowe, G. Rowe, jun., March 10: The lode in the 132 east is without change during the past week, worth 6¢ per fathom. The lode in the stopes below the 117 is worth 12¢ per fathom. The lode in the stopes in the 105 cross cut is worth 12¢ per fathom. The lode in the 82 cross cut is of good character, and the ground good for progress. The ground in the 105 cross cut south is highly mineralised, producing small bunches of rich copper ore intermixed with spar. We calculate to communicate the rise in the bank of the 75 with the 82 level in a few days. The 82 cross-cut south is progressing as fast as the 75 and will admit. The tribute pitches are producing their usual quantities of ore.

GLENROY.—R. H. We, March 13: We expect to have the top lodge at the 60 fm. level cut and timbered completely by the end of next week. The 60 cross cut is driven east 5½ fathoms; ground still very hard. The 50 rise is a large lode, with a mixture of blende, but not rich. The 25 cross-cut is driven 5 fathoms, and the 25 rise is also a large lode, from which we are getting good ore. The 25 cross cut certainly be a lode ahead of us. The lode in the 40 stopes is smaller, and not so good as it has been. In the adit end, driving north, the lode is quite 3 ft. wide, and yielding now some very rich stones of copper ore. The appearances are very promising, and we are looking for a valuable discovery daily. We are of opinion that this is not the same lode, as the shaft is sunk on, and the mine worked for years. It is a new lode, and will give us a fine specimen of underground lode in adit mining and stope of copper, and lignite is also a little lead and blende.

GLYN.—J. Koculak, March 12. I have let the engine shift to sink until it strikes the footwall of the lode at 142' per fathom, and the sum of 56. to do all extra work connected therewith—that is, dividing and casing shaft, fixing ladder ways, changing gears, putting on pumps, watching Sunday nights, &c. When we come across the lode, we will find it at a depth of upwards of 50 fms. from the surface, and at that point I fully expect to meet with permanent courses of lead. The 28 west is entering fine lead bearing strata, and no doubt will lead to ore of importance directly. As soon as fine weather sets in we will go on prospecting the 28 west, and above and below the 15.

GOGINAN AND EVEL NEWYDD.—March 13: In the past month Bryn Pica shaft has been sunk below the 120 2fms. 1 ft. 6 in., and fair progress continues to be made. The 130, east of western shaft, has been extended 3½ fathoms, in a large lode, which has produced good stones of ore at times, and we anticipate will soon much improve. The same level west has been driven 2 fms. in a hard lode, and has produced good stones of ore at times, and we anticipate will soon much improve, and, from what is seen in the level above an improvement may be looked for again. The 140, east of western shaft, has been extended 4 fms. 1 ft., and the lode yielded ½ ton of ore in places. In the present end it is ore throughout, producing saving work. The 120, west of Bryn Pica shaft, has been driven 5 fms. 2 ft. 6 in., the lode containing a little ore, but not rich. We expect to effect a communication with the 130, east of western shaft, in a few days. On the 13th of this month, when we shall commence cutting open the lode to its full width in that level, and hope the portion standing will be found productive. The winze below the 110, 55 fms. west of Bryn Pica shaft, has been sunk 1 fm. 5 ft.; the lode here is disseminated throughout with ore, worth 1 ton per fathom. In the stope over the 120, west of the western shaft, there is a large, strong lode, worth 1½ ton per fathom. The tribute pitches, on the whole, are not looking so good, and one over the 130, west of the western shaft, is somewhat rich. The 120, west of the shaft, the continual wet and stormy weather has greatly impeded surface operations, and consequently we are not in a position to sample more than 30 tons of ore to day. According to instructions the 12 ft. water-wheel for driving new dressing machinery has been brought down from Level Newydd, and excavation of ground for

GREAT LAXEY.—F. Reddiffe, March 13: No. 2 cross-cut, in the 210 north. Driving for the 200 south since during the past week met little, and crossed through it; at this point the branch is found to be worth 35¢ per fathom. This cross-cut is longer than the northern one, and indicates that the lode will continue divided for a considerable distance, the probable point being some 40 fms. southward. The same branch in the 200 continues to show the same tendency to keep off, and is worth at present 40¢ per fathom.—Dumbell's. The improvement spoken of in the last report in the 215 north since has since been fully opened, and the lode is worth 40¢ per fathom, with good, healthy indications. The slope in the roof of the 200 south is now 10° 30'. The men sent to stop off winze in the 190, where the lode is worth 5 ¢ per fathom. The riser over Dumbell's shaft has been well divided, and otherwise prepared for rising again, but the lode is letting down such a quantity of water that it is thought better to wait a little to see whether the water will become less. There is nothing else requiring remarks, and everything about the mine going on well.

GREAT RETALLACK.—J. Harris, March 10: The 20 cross-cut south through the lode continues to show small seams of blende, with a little mundle, and spots of copper.

HLINGSTON DOWNS CONSOLS—James Richards, March 15: In sinking the nine shaft good stones of ore have recently been met with on the north wall of the lode.—Bailey's shaft: In the 169 west the lode is 4 ft. wide, worth 3 tons, or 12 $\frac{1}{2}$ per fathom. In the 180, east of Nicholls' winze, driving towards the shaft, the lode continues worth 4 tons, or 15 $\frac{1}{2}$ per fathom. In the 159 west the men are still engaged in stripping down a south part of the lode, about 20 fms. west of Cocking's winze. In the slope in the back of the 159 west the lode still worth 8 tons of ore, or 18 $\frac{1}{2}$ per fathom. In Clynsworth's rise, in the back of the 149 west, the lode continues to yield good stones of ore. In the 129 west, on the south part of the lode, the lode is 2 ft. wide, composed of capel, quartz, muncie, and ore, worth 1 ton, or 4 $\frac{1}{2}$ per fathom, with indications for an improvement. In the 119 west, on the south part of the lode, the lode is 2 $\frac{1}{2}$ ft. wide, worth 4 tons, or 18 $\frac{1}{2}$ per fathom. In the back of the 119 west there is still a good course of ore, worth all of 10 tons, or 50 $\frac{1}{2}$ per fathom. The pitches continue to yield their usual quantities of ore.

HOLMBUSH. H. Bennett, March 15: The shaftmen are making fair progress with the sinking of the engine-shaft. In driving south on the lead lode, in the 50, we have met with a good branch of copper ore, which I think will lead to the Holmbush lode, on the western side. As it has never yet been seen west of the lead lode above this level this is a very important point, as it is standing 90 fms. high. I hope to be able to say more about this in a few days. The 10, east of Little Hill, continues to look well. The 20 east, on the flap-lead lode, has a very kindly prospect. It is full of a good content of gossan, spar, and a little arsenical muffle—a large quantity of waste still issuing from the top of the stope continues much the same as when last reported on. I am pleased to say that the 70 is dry on the flap-lead lode, and we find the lode to be as good for muffle and copper ore as we expected to find it. We are at present putting down ladders and securing the old workings, and hope shortly to commence to drive the 20, and stope in the 50, 60, and 70, which are now opened up. Our prospects were as good as a parent. We are pushing on with the skip-road in Lord's shaft, and the carpenters are busy about the prop-pole, and pulley stands. All our surface operations are being pushed on with vigour, and the machinery working well.

KINGSTON CONSLS.—W. Hancock, J. Chynoweth, March 12: We commenced by dropping the lift below the 30s, so as to fork the water out and resume operations at the bottom of the mine—the 40s. In the 39 west the lode is producing a little blende and lead, not yet of any commercial value; but it will, no doubt, improve, and become profitably productive as we advance and get out of the influence of the cross-course, or what may be called a north and south lode. Set to drive, by four men, for the month, at 3¢ per fathom; we shall make preparations to put a tram road in this level so as to hasten it on. In the 18 west the lode is of a promising appearance, producing about $\frac{1}{4}$ ton of blende and a $\frac{1}{2}$ ton of lead per month, and a good piece of good profitable stopeing ground has been opened out here during this last month. Men's contracts not made. The stopeing on the back of the lode (four), by 15 men; contracts not out. Worth on the average about 1 ton of blende and 6 cwt. of lead per fathom. Our last sale of ores weighed at money value 3577. 10s., and hope to sample at the proper time about the same quantity.

March 13, J. Chyweeth: The lode in the 18 is looking better than when Capt. Hancock saw it on Friday last: beautiful lode going down in the bottom, and in pushing on the 39 we shall get to something good. You will see by the measurement and our returns that the back of the 18 is turning out far superior to Mr. Powporth's report, or any man that has reported on it yet, and I am looking forward, when 39 end gets away in more settled ground—that is to say, pushed west, the lode will again prove to be very productive, as we have in the bottom of the 15 good lode going down, and it will not doubt to me that the 39 will turn out west good, if not better than the 18. We are pushing on with the lode looking as fast as possible, and hope by the end of another week we shall do a great deal worse than **LADYWELL**.—A. Waters, March 15: There is nothing new here to write this week. The lode in the adit south continues to open out paying ground. I hope to sample 20 tons of lead ore next week.

MARKER VALLEY W. George, J. Stenlake, March 9: We beg to send you the following setting report of this mine:—Salsbury shaftmen are making good progress with their bargain set at the last setting. To drive the 143 cross-cut south, by six men, at 37, per fathom.—Marke's Lode: To stop the back of the 124, by four men, at 3, per fathom; worth 3 tons of copper ore per fathom. To stop the back of the 112, by four men, at 6, per fathom; worth 4 tons per fathom.—Rose-down Lode: To strip down south part of the lode at the 90, by two men; worth tons per fathom. To stop the bottom of the 89, by four men; worth 5 tons per fathom. To stop the back of the 79, by four men, at 38.5s. per fathom; worth ½ tons per fathom. No. 1 stop, in bottom of the 69, by four men, at 5s. per fathom; worth 4 tons per fathom. No. 2 stop, by four men, at 5s. per fathom; worth ¾ tons per fathom. To stop the back of the 60, by four men, at 2s. 15s. per fathom; worth 3 tons per fathom. To drive the 50 west, by six men, at 6s. per fathom; worth 4 tons per fathom. The lode in this end continues to present a very promising aspect, and from present indications we have great hopes that it will open up a valuable place for the future. To rise in back of the 80, by four men, at 2s. per fathom; worth 4 tons per fathom.

six men, at 3 $\frac{1}{2}$ per fathom; worth 3 tons per fathom. To drive the 50 west, by four men, at 10 $\frac{1}{2}$ per fathom; the part of the lode carried is without charge. No stope, in bottom of the 50, by six men; worth 6 tons per fathom. No 2 stope, by four men, at 5 $\frac{1}{2}$ per fathom; worth 4 tons per fathom. To sink the waste, by four men, at 5 $\frac{1}{2}$ per fathom; worth 4 tons per fathom. The lode is composed of gossan and quartz, intermixed with copper ore, but not sufficient to value. To drive the 10 west, by four men, at 5 $\frac{1}{2}$ 10s. per fathom; worth 2 tons per fathom. To rise in the back of the 10, by two men, at 5 $\frac{1}{2}$ 10s. per fathom; worth 2 tons per fathom. To produce saving work. To stope the back of the 10, by four men, at 2 $\frac{1}{2}$ per fathom; worth 2 tons per fathom. To sink the waste, by four men, at 5 $\frac{1}{2}$ per fathom; ground continues favourable for driving. We have also cut six tribute pitches, to 18 men, at tributes from 9s. to 13s. 4 $\frac{1}{2}$. in 1 $\frac{1}{2}$.

MELLANEAR.—John Gilbert, March 14: We have intersected the lode in the cross cut, below the cross course, and find it to be 1½ ft. wide, producing little copper ore, but nothing to value. We think that we have discovered the main part of the lode, which runs from the surface down the dip, through the old adit walls, and producing good stones of copper ore. The 1-ide in the west of the skip-shaft, is still worth 4 tons of ore per fathom. The rise in the west of the level is without change to notice, and the lode is worth 3 tons of ore per fathom. The winze in the bottom of this level is holed to the 75, and we have put timber to cut the winze plain to prepare for sinking another winze below the 78. The lode at the 78 is worth 3 tons of ore per fathom, and will come down just over the present end in the 86. The lode in the rise in the back of the 75, west of the skip-shaft, is worth 3 tons of ore per fathom. The lode in the back of the shaft, is worth 3 tons of ore per fathom. The lode in the 75, east of Gundry's shaft, is worth 4 tons of ore per fathom. We have intersected the lode in the 70 cross-cut south from Gundry's shaft, and the lode runs into it about 4 ft. good stones of copper ore; the last 2 ft. will produce 2½ tons of ore per fathom, but we are not yet through the lode, and in the level below the best part of the footwall, which we have not yet reached in the 73. There is no change in the cross-cut, but we are expecting to cut the lode very shortly. We have commenced the surface adit on the Gundry's shaft, and are working very well, and shall continue at once about the same length, and get it to work soon as possible. The water-course at the old engine is now back to 11½ strokes per minute, and our pitwork is working well.

MONYDD GORDDU.—R. Rowse, March 14: We commenced sending down the new lift of 10 in. pumps last Thursday set them to work on Saturday, got the water clear at four strokes per minute on Monday, and resumed cross cutting the lode on the afternoon of that day, and continued until the following morning, at 4 o'clock A.M., when the water so much increased that it overpowered the pumps, and set 2 fms. in the shaft in a few hours. We again forked about 6 ft. last night, and believe the water will be drained from the lode and surrounding country in a few days, when cross cutting will again be resumed. This great force of water is, doubtless, coming from a very strong open lode, and I trust, as we have every reason to expect, we shall find a good course of ore. The water has been done in the 12 foot, on the 12th, but so far, since we first met, the men working being engaged sending down the lift, but so far, we have not seen to-day my result of 12 feet, and I think the rise will apply to this level. The alteration in the bearings towards the main lode, consequently we shall not have so far to cross to reach the point where we expect to meet with the lead seen in the level above going down to said point. The lode in the 12 feet continues promising, with spots of lead and copper, and likely to improve. Good progress is made in driving. We are pushing ahead in the stopes, and on the dressing floors, and fairly progressing towards smelting and sampling. All machinery is in good condition and working regular.

NEW AYLL YL-J. Paull, March 15: The lode in the 20, west of crosscut on south lode, is 3 ft wide, composed of spar, clay-slate, and a little lead ore, but not enough to value. Having only two men here, our progress is slow. The 20, driving east of cross-cut on same lode, is being urged on with a full pair of mules. The lode 3 ft. 6 in. wide, ore throughout, at present not taken down square with the end, there being about 100 ft. of lode between the 20 and the 10. I think I can get the 20 to run on a cement upon lode this week, as there is more water in the present end. This lode has been left standing in consequence of being full of ore stuff, and will be all taken down in a few days. There is a little improvement in the 20 east, on middle lode, water issuing freely from same, and lode looking better. I find by dialling same and winze, they are on same lode. The winze is now being sunk by six men; we had to put on two more men in consequence of an increase of water. The lode is 2 1/2 ft. wide, composed of spar, clay-slate, and lead ore, yielding of the latter about 100 lbs. per ton. I think I can get the 20 to run on a cement upon lode this week, but I hope this will be of short duration, so that we shall soon have an improvement. The six tributers has got out all their stuff, and are busily engaged in cleaning it, which I hope will be done in a few days. The other tributers will be bringing their stuff out next week, when we will be all dressed as soon as possible, and send it to market. We are now crushing and day, in order to get a parcel of ore as soon as possible. Pumping, drawing

working, and dressing going on regularly, and all machinery in good order.

NORTH LAXEY.—R. Rowe, March 10: It being the pay and a tiding day yesterday, we let the following bargains:—North shaft, sunk according to sounding, 100 fms. below the 100 fms. level, at 30s. per fathom. The 121, stop, 400 fms. below the 100 fms. level, at 4s. 10s. per fathom. The 60 stop, 150 fms. below the 100 fms. level, at 4s. 10s. per fathom. The 50 stop, 100 fms. below the 100 fms. level, at 4s. 10s. per fathom. The 40 stop, 50 fms. below the 100 fms. level, at 4s. 10s. per fathom. The 30 stop, 25 fms. below the 100 fms. level, at 4s. 10s. per fathom. The 20 stop, 10 fms. below the 100 fms. level, at 4s. 10s. per fathom. The 10 stop, 5 fms. below the 100 fms. level, at 4s. 10s. per fathom. The 5 stop, 2 fms. below the 100 fms. level, at 4s. 10s. per fathom. The 2 stop, 1 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1 stop, 1/2 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/2 stop, 1/4 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/4 stop, 1/8 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/8 stop, 1/16 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/16 stop, 1/32 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/32 stop, 1/64 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/64 stop, 1/128 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/128 stop, 1/256 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/256 stop, 1/512 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/512 stop, 1/1024 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/1024 stop, 1/2048 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/2048 stop, 1/4096 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/4096 stop, 1/8192 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/8192 stop, 1/16384 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/16384 stop, 1/32768 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/32768 stop, 1/65536 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/65536 stop, 1/131072 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/131072 stop, 1/262144 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/262144 stop, 1/524288 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/524288 stop, 1/1048576 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/1048576 stop, 1/2097152 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/2097152 stop, 1/4194304 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/4194304 stop, 1/8388608 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/8388608 stop, 1/16777216 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/16777216 stop, 1/33554432 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/33554432 stop, 1/67108864 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/67108864 stop, 1/134217728 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/134217728 stop, 1/268435456 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/268435456 stop, 1/536870912 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/536870912 stop, 1/1073741824 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/1073741824 stop, 1/2147483648 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/2147483648 stop, 1/4294967296 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/4294967296 stop, 1/8589934592 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/8589934592 stop, 1/17179869184 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/17179869184 stop, 1/34359738368 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/34359738368 stop, 1/68719476736 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/68719476736 stop, 1/137438953472 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/137438953472 stop, 1/274877906944 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/274877906944 stop, 1/549755813888 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/549755813888 stop, 1/1099511627776 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/1099511627776 stop, 1/2199023255552 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/2199023255552 stop, 1/4398046511104 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/4398046511104 stop, 1/8796093022208 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/8796093022208 stop, 1/17592186044416 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/17592186044416 stop, 1/35184372088832 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/35184372088832 stop, 1/70368744177664 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/70368744177664 stop, 1/140737488355328 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/140737488355328 stop, 1/281474976710656 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/281474976710656 stop, 1/562949953421312 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/562949953421312 stop, 1/1125899906842624 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/1125899906842624 stop, 1/2251799813685248 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/2251799813685248 stop, 1/4503599627370496 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/4503599627370496 stop, 1/9007199254740992 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/9007199254740992 stop, 1/18014398509481984 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/18014398509481984 stop, 1/36028797018963968 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/36028797018963968 stop, 1/72057594037927936 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/72057594037927936 stop, 1/144115188075855872 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/144115188075855872 stop, 1/288230376151711744 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/288230376151711744 stop, 1/576460752303423488 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/576460752303423488 stop, 1/1152921504606846976 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/1152921504606846976 stop, 1/2305843009213693952 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/2305843009213693952 stop, 1/4611686018427387904 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/4611686018427387904 stop, 1/9223372036854775808 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/9223372036854775808 stop, 1/18446744073709551616 fm. below the 100 fms. level, at 4s. 10s. per fathom. The 1/18446744073709551616 stop, 1/36893488147419103232 fm. below the 100 fms. level, at 4s.

OLD TREBUCHET.—W. Hancock, W. T. Bryant, March 15: The rise in the back of the 102, south of the slant, has been communicated to No. 1 winz, making it under the 90. No. 2 winz, sinking under the latter level, is improving. No change elsewhere calling for any remark. The solid level is 20 paces of ore from the 102, and No. 3 winz, No. 100, is 20 paces of ore.

PARYS MOUNTAIN.—J. Mitchell, March 14: We have no change of any importance here this week. The ground in the 90 south continues hard, but we are looking out for a change every yard we advance in this direction. The stoves, as the whole, are looking much as usual. Some of the pitches have improved, and the timbermen are working in better spirits. We propose sampling the ore in the 90s next week, or early in the following week. We have a good quantity of ore in the 90s.

PATELEY BRIDGE.—C. Williams, March 15: The Rake vein in the 35s maintains its favourable appearance, a productiveness producing more or less ore for 2 ft. in width. The other portion of the vein consists of fluor-spar, carbonate of lead, blende, and gossan. I hope next week to furnish you with an favourable account of this point. The 30 w-e-t, on the same vein, is continually improving both in appearance and value. The leading part on outcrop is 15 in. in width, containing several tiles of ore from 55 to 1 in. solid, and the indications in favour of further improvement. The south cross cut in the 20 w-e-t, below Lumb vein, is being pushed forward with all energy both night and day, and considering the hardness of the rock fair progress is being made. Every day the outcrop is being exposed to a new level, and the forecast of this cross-cut, has again improved, being 8 ft. wide, ore throughout, producing about 30 cwt. of lead ore per cubic fathom. I believe that we are skirting a great deposit. Fielding's vein in the 20, over the north west driftage, is opening out wider, and producing a little more ore; present value 15s. per fathom. The north ditch on top part of bed in the 20 is without change, producing 25 cwt. of lead ore per fathom. The Sun vein going east from bottom of new shaft, under labelled level, is 6 ft. in width, composed of fine matrix and lead ore, producing of the order 1 ton per fathom. All our machinery is now in a good state of repair, and

working satisfactorily. The dressing of ores is being carried on with regularity.

PENNERLEY.—W. T. Harris, J. Delbridge, March 14: Engine-Shaft: The shaft in the 130 east is 2 ft. wide, of carbonate of lime, with good stones of lead. The rise in back of this level is 1 ft. wide, containing stones of lead, and promising to have a lot of water in No. 1 winze, and which is again in full course of sinking. The level is 2½ ft. wide, worth 2½ tons lead ore per m. No. 2 winze in bottom of the 120 is worth 2 tons lead ore per fathom. No other change in the stops and pitches calling for remark. To-day we have sampled 10 tons lead ore for sale on the 21st inst.

PLYMOUTH—John Garland, March 15: In sinking Jones' and Heron's winches, below the 24, east of new shaft, fair progress is being made, the former being down 1 in. 4 ft., and the latter about 1 in. 3 ft. These two winches will be used to sink the 24, about 100 ft. below the bottom of the 24. The stage of the 24, east of cross-cut, produces fully 1½ ton of lense ore per fathom. The topc east of last named, over the 24, has slightly improved, and now produces about 10 cwt. of lense ore per fathom. A further improvement is expected in the topc. Towards the completion of new work, the carpenter and smith are engaged about main rods, ready or fixing next week. The weather is fair and clear, and the 24, east of cross-cut, is being sunk with rapidity. All well, and 20 tons of lense ore will be issued on Tuesday next. The machinery throughout, including pitwork, is in fair working order.

PRINCE OF WALLS.—J. Pryor, March 14: We are making good progress in rising above the back of the 77, also in sinking the winze below the 53 and 54, and hope to effect a communication in a few days, as we can now hear the men working through the ground from one place to the other. The lode in the 55 west is large, and of a masterly character, yielding copper ore and mundle throughout, but not enough of either to value. There is no change in the 45 west, as we have taken the men from that point and put them to rise from the back of the 77.

RELISTIAN CONSOLS.—J. Curtis, March 14: Settling Report: Tin 10 lb. to arrive east of Duke's shaft, by two men and two boys, at 3¢. per fathom and 10¢. per ton; lode worth 4¢. per fathom for tin. The winze to sink below the deep shaft, by six men, at half tribute and 8¢. per fathom; lode worth 3¢. per fathom. In the tribute department we have six men, at 10¢. in 1¢. The tin sold to-day fetched 9¢. per ton, and realized 43¢.

ROMAN GRAVEL—A. Waters, March 15: With the exception of the late ice 1-6, at the new south engine shift, which has improved to 1-2, the various points are the same as reported last week. We have to day sold 220 tons of gravel for 2,077, 175 6d.

SAINT PATRICK—W. Frances, March 14: The cross course in the 1-3 and level north is well defined, having a working sticking of about 18 in. wide, composed of blue clay, &c., and from which a little water is now oozing. I think this will be of great service in driving the

most essential for lead are deposits.

On the 20th of March, W. Williams, Henry Abraham, March 18, 1891, the stamps axle nearest the engine has been very weak and shaky for some time.

We recently strengthened a weak part, but it has now broken in a fresh place, consequently we have one side or 48 heads idle; we are, however, preparing to change the axle for a new one this evening, when no time will be lost in putting the mine in place. The mine, on the whole, is looking just as usual.

On Saturday last nearly 81 tons of tin, the produce during the past week, were sold on the spot for 10 shillings 6 pence. The market is bright. **Slag: W.**

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Notices to Correspondents.

* * * Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be filed on receipt; it then forms an accumulating useful work of reference.

MINING IN THE EAST—No. XI.—This communication is unavoidably postponed until next week.

Received.—"A. M." (Nevada)—J. M. Hart (Oswego). Sent by post—"Scrutator"—"J. E."—"W. O."—"Yes"—"D. G."—"Shareholder" (New Consols) has been wrongly informed—"Mentor"—"Shareholder" (Glasgow): We believe next week—"Capt. Nemo II.": We could not publish such a statement—"One Interested" should enquire at the office for the particulars; they would be readily furnished to a shareholder—"M. T.": A letter sent to our office will reach—"Engineer" (Leeds): An article on this subject will appear in next week's Journal—"Speculator": We never give such information—"Vindicator": If the writer's name is attached to the letter it shall appear.

COLORADO TERRIBLE LODGE MINING COMPANY.—In the report of the meeting of shareholders, in last week's Journal, there is a mistake in putting the sign of the Mexican \$ against 35,000, instead of feet.

THE MINING JOURNAL.

Railway and Commercial Gazette.

LONDON, MARCH 17, 1877.

THE DEVELOPMENT OF MINERAL PROPERTY.

The development of mineral property by means of adequate railway facilities must always be a subject of importance to the colliery and commercial communities. During the last 20 years railways have wonderfully extended throughout the kingdom, and now there is scarcely a town of even second or third rate importance which does not possess the advantages of railway communication. There are, however, many large mineral districts which have not adequate facilities for their rapid growth and development;—nor, indeed, can they ever possess these proper facilities until direct unbroken and independent communication be established between them and the seats of large ironworks and manufactories and the various shipping ports. Hitherto the passenger traffic seems to have been the chief care of the railway managers and directors, and properly so too; but comparative little regard has been paid to the mineral and goods traffic; and yet, with all the disadvantages under which our colliery proprietors labour, the mineral and goods receipts upon railways are far more than half their total revenue; and it must be obvious to the most superficial observer that were the present circuitous routes abandoned, and direct communication established, a considerable expansion of trade would be the immediate result, to the mutual advantage of shareholders on the one hand and colliery proprietors upon the other.

The statistics advanced at the half-yearly meetings of the various railway companies conclusively prove how much shareholders are dependent for good dividends upon the carriage of minerals, iron plates, and other articles connected with our staple trades, and this should be the means of inducing managers and directors to take steps to foster and encourage these trades far more than they have hitherto done. Sir DANIEL GOUGH, the able chairman of the Great Western Railway Company, said at its recent half-yearly meeting that the mineral and traffic receipts for the past half-year showed a decrease of no less than 50,000*l.*—1600*l.* per week—by far the greater part of which occurred upon the South Wales portion of the system. It is notorious that during that time the collieries of that extensive mineral basin have been almost next to idle. The demand for coal for the manufacture of iron and tin plates and other manufactures being greatly diminished, consequent upon the prostration of these important industries, immense quantities of coal have been brought to bank for which there has been no demand, and depôts containing hundreds and thousands of tons have been established.

Can there be no question that had adequate facilities been in existence, with direct unbroken lines of communication, and very much lower traffic rates charged, that the whole of this surplus supply from South Wales would have found its way to the great centres of manufacture in the Midland districts, or to the metropolis, where it would have been so gladly welcome. Again, the Manchester, Sheffield, and Lincoln line lost 20,500*l.* in mineral traffic, as compared with the corresponding half of the previous year; the North-Eastern 11,800*l.*; and the Midland 9000*l.* from the transit of minerals and goods, all of which probably would have been prevented had better means of transit existed. On the other hand, the Taff Vale line, which is an essentially mineral line, running from the ports of Cardiff and Newport to the rich coal districts of the Rhondda, Aberdare, and Merthyr, earned for its fortunate shareholders the splendid dividend of 10 per cent., and a bonus of an additional 2 per cent., all from the carriage of minerals. These facts should be sufficient to show the importance and necessity of the great railway companies now turning their attention to the development of the mineral traffic in their respective districts. In the interests of their own shareholders this is imperatively needed. There are districts rich in mineral deposits utterly neglected, only needing railway facilities to yield abundant harvests to both mineral proprietors and railway shareholders. There are other large colliery areas scarcely tapped, consequent upon inadequate railway communication; whilst in other districts the circuitous routes, and the inevitable shuntings and delays consequent thereon, are to a great extent prohibitory to mineral carriage. Nor is this all. The tariffs charged upon some of our lines are so high that colliery owners naturally hesitate to send away any but that absolutely necessary to meet orders, and it is a well-known fact that colliery steamers can land cargoes of coal in some of the European and continental ports—and it is said in some of the American also—at lower figures than they can transport them into the interior of our own country. We believe that a moderate reduction in the traffic rate upon minerals would be productive of much benefit to the parties more immediately concerned. It would soon lead to a rapid expansion of colliery operations—enormous as such expansion has been of late years—and railway dividends would be proportionately benefited.

Whilst pointing out the obvious duty of railway managers and directors generally towards the colliery districts, it is satisfactory to be able to say that one great company is at length awakening to a sense of its own interests in this direction. The South Wales is the largest of all the colliery districts in the kingdom, with an estimated yield of no less than 32,546,000,000 tons intact. But this district is not only the largest but it is the "youngest" in point of development. The Great Western system runs throughout the whole of South Wales, and is the main line of the district, having amalgamated with, or swallowed up, the South Wales and also the Vale of Neath lines. It possesses the chief means of access to most of the shipping ports, but the interior districts are most inadequately supplied with railway facilities, preventing that development of minerals which would otherwise take place. For many years that powerful company possessed a complete monopoly of the whole district, and but little commercial progress was made. The London and North-Western and the Midland, however, seeing the rich mineral prize in the South Wales district, gradually neared the goal of their ambition, and although baffled and strenuously opposed at every point and turn by the Great Western, at length succeeded. A wonderful expansion of trade in all directions, especially of colliery property, has been the result, and this is yearly largely increasing. The Great Western, however, is fully alive to its own interest in this respect, and is taking steps to retain its hold of the great mineral area through the very heart of which it runs. The last half-yearly report of this company states that the works in connection with the Thames Tunnel are rapidly proceeding, and have so far advanced as to prove beyond the possibility of doubt the feasibility of the scheme, which will be at once carried into effect. This work when completed will not only be a grand engineering triumph, but must give an impetus to all mineral property in South Wales, of which we can

now form but a very inadequate conception. It will bring the metropolis between 50 and 60 miles nearer the South Wales coal basin, will obviate the many detentions and obstructions which now occur consequent upon the long detour, and freights will necessarily be materially diminished. With the great South Wales mineral basin at its back (as yet in its infancy) there can scarcely be a doubt as to this important work, expensive though it may be, eventually yielding a fair dividend from the increased traffic; whilst railway managers and directors generally may rest assured that by doing their utmost to develop mineral districts, and giving increased facilities to colliery properties, they are at the same time best promoting their own interests.

OUR RAILWAY IRON ABROAD.

We fancy (although we confess that we do not speak very confidently upon the subject) that a slight improvement occurred last month in the external demand for our railway iron. Statistics are, perhaps, rather deceptive—at any rate, they sometimes conduct those who trust to them to unreliable conclusions; but still, so far as statistics go, those available as to our exports of railway iron in February are encouraging rather than otherwise. Thus, we sent abroad 20,690 tons of our railway iron in February, as compared with 18,099 tons in February, 1876, and 35,086 tons in February, 1875. Russia took a sensibly larger quantity of British railway material in February this year than in the corresponding month of 1876. The exports to Sweden and Norway decreased, however, almost as sharply in February as those to Russia increased. Our exports of rails to Peru and Chili appear to have almost entirely ceased for the present, but we have been sending rather larger quantities this year to Brazil. The colonial demand was pretty well maintained in February—in fact, it exhibited some increase. If we take account of both of the first two months of this year the results indicated are less cheering. Thus our aggregate railway iron shipments for January and February only amounted to 37,706 tons, as compared with 41,679 tons in the corresponding period of 1876, and 71,257 tons in the corresponding period of 1875. It is, perhaps, worth notice that there has been just a little revival this year in the demand for our railway iron in the United States. Thus to Feb. 28 we sent the Americans 460 tons of our rails and accessories; the corresponding shipments in the corresponding period of 1876 were only 54 tons, although in the corresponding period of 1875 they were 493 tons. The South American demand for our railway iron has suffered terribly from the collapse of Peruvian credit. That this has been the case will be seen on an examination of the annexed table, which illustrates the shipments of British railway material to Brazil, Peru, and Chili during the first two months of the last three years:—

	1875.	1876.	1877.
Brazil	2,337	2,999	4,723
Peru	8,552	905	—
Chili	5,024	80	32
Total	15,913	3,984	4,755

Brazil still maintains a tolerably good credit, and has accordingly been a somewhat better customer for our rails this year. But Peruvian credit was utterly shattered by the miserable default of Jan. 1876, which had the effect of shutting the Republic of Peru out of the great monetary centres of the world, the result being that the work of Peruvian railway construction was practically suspended. The colonial demand for our rails this year, although it has been of respectable importance, has still been scarcely so good as in the corresponding period of 1875. To show this we must again have recourse to statistics, the shipments of our railway iron to British America, British India, and Australia having been as follows during the first two months of the last three years:—

	1875.	1876.	1877.
British America	5,560	1,759	848
British India	2,928	2,616	2,874
Total Imports	13,644	12,822	12,897

Exports.
English copper, wrought & unwrought .. 3,637 .. 3,092 .. 3,469
The Foreign copper, unwrought .. 2,029 .. 2,616 .. 2,874
is eminently encouraging, the resources at the disposal of the various Australian Governments becoming of more and more importance. In proof of this, we may mention the fact that the total revenue of New South Wales for 1876 amounted to 5,037,656*l.*, Victoria ranking a good second with a revenue of 4,322,823*l.* As almost all the railways in Australia are in the hands of the Australasian Governments, there is every probability of a considerable Antipodean demand for our rails. The consumption of railway iron in British India also appears likely to be of a certain importance for some time to come; but as regards Canada the outlook is less cheering, since not only are Canadian railways generally at a very low ebb, but of late there has been something very like a panic at Montreal. British India has this year ranked first among our external customers for railway iron, and Australasia has been a close second, so that the observations which we have from time to time made as to the importance of Antipodean markets to British ironmasters may be said to have been justified by actual experience.

ENCOURAGEMENT TO NATIVE INDUSTRY.—The Russian Government, with a view to the encouragement of native industry, has passed an order that no contract for railway carriages, locomotives, or tenders shall be placed abroad beyond the number of the latter specified in the title deeds of certain companies. Premiums are to be paid to the machinists for the production of locomotives varying from 2400 roubles to 3000 roubles, according to the size. These premiums are to be payable for five years, but can only be claimed by firms which produce at least 30 locomotives per annum. During this period the makers will also be allowed to import steel, &c., duty free. The scale of prices for locomotives and carriages will be fixed by the Government, on the basis that the cost price of the Russian machines shall equal the price of similar machines abroad, plus the import duty, the premium not being taken into consideration in the calculation.

THE FATAL EXPLOSION NEAR SWANSEA.—The adjourned inquest upon the bodies of the 18 poor fellows killed by an explosion of gas in the new pit of the Weigh Colliery, Forest Fach, near Swansea, on Thursday, the 8th inst., was resumed on Wednesday last before Mr. Edward Strick, the district coroner. Mr. W. E. Wales, the Government Inspector, was present; and Mr. Thos. Glasbrook, the general manager of the colliery, which belongs to the Landore Siemens Steel Company. Very much of the evidence given was of a formal character, but some of the witnesses gave important evidence as to the condition of the pit some days previous to the explosion. These witnesses deposed that the level in which the explosion occurred was free from gas, although a little had been found there about a week previous. It was then driven out by the ordinary means of ventilation (fan). Thos. Rees, a collier, who worked in the pit on the morning of the explosion gave the most important evidence. He deposed that he went down the pit about six o'clock on the Thursday morning of the explosion. David Davies, the foreman, locked his safety-lamp, and told him his place was all right, and he then proceeded to his work, which was in No. 20 air-way. Had filled about half a tram of coal when he heard a violent explosion like a cannon. Ran out to the slant as quickly as possible, but only got a very short distance, when he fell down and remembered no more until brought to the bank. Henry Ponsford, collier, who deposed to working in the No. 19 level west (the place of the explosion) on the Thursday morning. When going to work David Davies told him his working place was all right when he locked his safety-lamp. After working for about 10 minutes he heard a loud report like a shot going off. Ran for the slant, but when he got between Nos. 17 and 18 levels he recognized the grans of his son, who had fallen down from the choke-damp. Determined to remain by his son until assistance came, and after about ten minutes both were taken up. Believed D. Davies was attentive to his duties. David Beynon deposed to searching for the lumps of the dead men on the day of the explosion, and also the next day. Found them all in No. 19 fm. level. On Friday found the lamp with the case off. It had evidently been opened. Could not positively state whose lamp it was, but found it within about 10 yards off the body of the

overman, Abraham Bevan, and believed it was his lamp. Bevan was killed. Found that lamp from 9 to 10 yards from the air top-hole of No. 19 level. The doors had been blown in between the top-hole and the slant. Saw no other signs of the explosion. The enquiry having sat four hours, was then adjourned until Friday.

MINERALOGICAL SOCIETY.—It appears that in endeavouring to do justice to one of the early advocates of the Mineralogical Society of Great Britain injustice has been done to another since the onerous labour of organising the affair—and it is well known that in matters of this kind much personal responsibility and exertion are necessary to obtain the support and co-operation of each individual member—fell upon Mr. J. H. COLLINS, F.G.S., who personally conducted the voluminous correspondence which has secured a successful issue. The institution is now in a highly prosperous position, and every confidence is felt that it will long continue so.

BRISTOL MINING SCHOOL.—We regret to announce that, in consequence of serious illness, Mr. Husbands, of Hayle, cannot fulfil his engagement on Monday next. His place will be taken by Dr. T. Wright, of Cheltenham, who will lecture "On the Geology and Palaeontology of the neighbourhood of Bristol."

COAL AND IRON IN THE UNITED STATES.—The production of coal in Pennsylvania is now increasing. The aggregate amount of anthracite coal mined in the State to Feb. 17 this year was 2,312,250 tons, against 2,068,491 tons in the corresponding period of 1876, showing an increase of 233,802 tons this year. The production of bituminous coal in Pennsylvania to Feb. 17 this year was 339,651 tons, against 339,299 tons in the corresponding period of 1876, showing an increase of 20,352 tons this year. The steel rail mills of Pennsylvania are full of orders, prices are firm, and less anxiety is displayed to secure work. The total sales of steel recorded in Pennsylvania in February amounted to 70,000 tons. The leading buyers among the railroad companies during the month were—the Erie, 15,000 tons; the Central Pacific, 13,000 tons; the Chesapeake and Ohio, 5000 tons; the Vermont Central, 5000 tons; the New Haven, 4000 tons; the Louisville and Nashville, 3000 tons; and the Pennsylvania, 3000 tons. There has been no increase in the business passing in iron rails in Pennsylvania, and recent large transactions in steel rails, to which allusion has just been made, have exerted rather a depressing influence upon the iron rail trade. It is estimated that \$37 per ton currency is the minimum price at which first-class iron rails can be produced in Pennsylvania, but there appear to be scarcely any buyers at that price. The Pennsylvania pig-iron trade has been rather dull and irregular; there has been some little improvement in the demand for manufactured iron.

GOLD, AND THE GOLD FIELDS OF VICTORIA.—The conclusion of each year affords an opportunity of ascertaining the total yield of gold in the colony during the year, and as there is no certain mode of arriving at an idea of the progress of mining, so far as the yields are concerned, at any other period, a careful calculation is made by the Argus immediately after the close of every year. The estimate is arrived at by taking the amount of Victorian gold exported in the year, the amount mined and the difference in the amount held by the various banks—who are the gold buyers here—at the commencement and at the close of the year. The Customs returns show that in 1875 Victorian gold was exported to the amount of 709,934 ozs., 16 dwts., of the value of 2,841,037*l.*, and that in 1876 there was 506,221 ozs. 6 dwts. exported, valued at 2,025,957*l.* The return from the Mint sets down 385,852 17 ozs. of gold as having been mined in 1875, and 427,878 84 ozs. in 1876. The quantity of gold held by the various banks on Dec. 31, 1876, was 71,467 ozs., as against 68,306 ozs. held at the termination of the previous year. By adding these amounts together—Victorian gold exported, 506,221 ozs.; Victorian gold received at Mint, 427,878 ozs.; and balance held in banks, 71,467 ozs.—a total of 1,005,566 ozs. is obtained, from which must be deducted 68,306 ozs. held by the banks at the termination of the previous year, and therefore included in the export or Mint returns of the present year, leaving 937,260 ozs. as the net yield for the year, or a decrease of over 100,000 ozs. on 1875, when the returns amounted to about 1,058,823 ozs.

GOLD MINING IN SPAIN.—In the books of Titus Livius mention is made of the splendid ornaments of fine gold worn by the Roman matrons, and that the gold came from the district of Tamsaya in Spain. A short time since an enthusiastic classical scholar who knew the district, and was aware that there did not even exist among the indigenes even the tradition of the existence of the mine referred to, resolved if it were possible to discover it. After several months careful investigation, and when he was about to give up the attempt in despair, what appeared to be an old shaft was discovered under the shade of an old oak tree. This was carefully cleaned out and extensive Roman galleries were laid open. On a survey being made a lode of ferruginous conglomerate, 80 centimetres (32 inches) wide, was found. In this gold was discovered perfectly visible to the naked eye. Since then assays have been made both in Paris and Madrid, and the lode stuff has been practically tested in bulk by Figueroa, of Cartagena. These trials have given the enormous results of 22 ozs. to 24 ozs. of gold per metric quintal, with 12 ozs. to 14 ozs. of silver. Arrangements have now been made for a perpetual lease, at a royalty of 15 per cent. on the gross product of gold, with option of purchase within one year for 100,000*l.*, 5000*l.* being payable on signing the definitive contract of lease, and three months being offered for making any investigations that may be desired. It is stated that in addition to the lode already mentioned there are seven others of nearly equal width running into it at nearly right angles. The main lode can be followed right up the mountain, and the whole property can be worked by adits. As the mine is within a short distance of a railway station there would be great facilities for working it, and it is believed that if English capital could be secured for developing it the results would be satisfactory to all concerned.

TECHNICAL EDUCATION IN JAPAN.—It appears that the Kaisi Gakko is not the only institution in Tokio offering technical education to the rising generation of Japan, the Imperial College of Engineering having about a dozen professors, including two graduates of Scotch universities, two of the Queen's University of Ireland, one an Associate of the Royal School of Mines, and the remainder non-graduates, three of whom, however, mention the colleges from which they did not graduate. The college was established by the Minister of Public Works, with a view to the education of engineers for service in his department. The course extends over six years, of which three years are devoted to theoretical studies and three to practical work. Government cadets are required to serve seven years under Government after completing their six years course. The standard of examination is at present low, but will be raised hereafter to that of European schools. The course of study leads to no academical or professional degree, but secures the student an appointment as assistant in that branch of the Public Works Department which he has selected. The college appears to be well suited for those to whom the full university course is unnecessary, and is likely to furnish a useful class of thoroughly practical students.

THE MINING LAWS OF TOLIMA.—The portion of the Código de Fomento de 1858, relating to mines has been carefully translated and annotated by Mr. R. C. Philpott (London; Clowes and Sons), and will be found very useful to English capitalists engaged in mining in that State. It is explained that in the State of Tolima all mines of emeralds and of rock salt belong to the Granadian Confederacy; all mines of other precious stones, and those of metals of every class, whether native or in combination, always provided that they can be worked so as to render the metals available, belong to the State; and all mines not comprised in the two former paragraphs belong to the owners of the surface of the ground. Concessions of mines belonging to the State are granted to discoverers, and upon denouncement in writing. Explorations must not be made within a town or village, but are free in all other places with the consent of the owner of the land; on unfenced lands indemnity must be given for damage. Mines are classed as vein, sedimentary, or alluvial mines. He who receives the title of a mine pays \$25 to the

Treasury of the State. The first discoverer of a mine has the right to the concession. The pretension of a vein mine is 2 hectares or 500 metres on the vein by 100 metres wide; if the vein average less than 60 centimetres, 50 metres more on the vein is given; of a sedimentary mine the area is 1 hectare, in square or rectangular form. The discoverer of a vein mine is entitled to one claim if it corresponds to a vein known at some other point; to two claims if it be a new mine on a known ridge; and to three claims if it be a vein in a new mine on a known ridge. Possession is lost by failing to pay \$10 per year tax, and to employ two or more persons for at least one month in each year. The miner has right of way for materials and minerals over adjoining owners' roads to reach the public road. The Toliman laws appear to be very liberal, and by making them known Mr. Philpott will have done much to direct the attention of British capitalists to its mineral resources.

REPORT FROM CORNWALL.

March 15.—These are very see-saw times, though the balance does not fluctuate very much either way. One week the good news of the settlement of the American Presidential difficulty gives ground for hope, and the sky begins to clear. The next, the apparent nearer imminence of war in the East undoes all the good that had been done, and makes dullness again supreme. But so far as it goes this sensitiveness is a good sign.

Wheal Owles appears to have increased its stock of tin by 22 tons on the quarter. What is the actual quantity now on hand we cannot exactly say; but it must be very large indeed, since the nominal debit balance of the mine stands at 22,342. The cost of stocking for the quarter is seen in the item "interest and commission," which figures for 412. Capt. Boyns is a hopeful man, and believes that stocking will pay after all. He commenced to stock when tin was 65s. 10s., but before he had accumulated 60 tons it had dropped to 50s. He has made a good profit since on one parcel at 54s. 10s., and considering that he starts at 50s. he certainly seems to have good grounds for his hope.

Another machine-borer is doing good work down West. It has been known for some time that Capt. Skewes intended to set the McKean borer to work in West Maria and Fortescue, and we are glad to hear an excellent account of it. McKean's borer, which is placed in the 71 ft. level at West Maria, is worked from the surface by a 14 in. steam engine, which was used formerly for driving the capstan. On Tuesday, after the machine had been worked by the men a fortnight, Capt. Skewes arranged to have a trial in the presence of a few practical miners. It should be stated that the borer has some still, hard ground to deal with, and the party were anxious to see in what time the various holes were drilled. The first, 2 ft. 3 in. in depth, was bored in eight minutes, allowing for stoppages caused by changing drills, and the peculiar nature of the ground, which, running in various directions, catches it while working. The second hole (this and all subsequent ones were subject to the same conditions) was 2 ft. deep, and was bored in eight minutes; the third, 2 ft. 3 in., took 11 minutes to complete; the fourth (a dry hole, thus preventing the use of water to aid the machine), 1 ft. 10 in., in 11 minutes; and in the fifth, when the machine worked scarcely without a hitch, and did the best work for the trial, 2 ft. were bored in seven minutes. Thus it will be seen that in 45 minutes, holes measuring in all 10 ft. 4 in. were bored, whilst, according to several of the men on the mine, it would take by hand labour an hour and a half to bore 2 ft., the men being continuously employed, and on a water hole. The average has been for four men, with 16 hours a day, to drive 10 ft. a month; at present the borer, which has to work it two men and two boys, and working eight hours a day, has driven 7 ft. in five days, thus giving evidence of its capability of doing eight times as much work as can be done by hand. But this is not the only advantage of the borer—its fast rate of work in one place. It is so portable that arrangements have been made in this end to remove it from the western end while the holes made are being blasted, and the end cleared out, to the eastern, where other holes will be bored, followed by the same circumstances, and *vice versa*.

Shall we hear anything more of the Wheal Jane fiasco? There is a very fair chance that if the matter is stirred any more there will be very lively doings at the next meeting. The combatants are all men who know well how to deal trenchant blows. Of course, there cannot be a question as to the right of a shareholder in a cost-book mine to inspect the books, but it is a right that may be abused, and if a shareholder knowing he has that right chooses to go surreptitiously to work instead of openly he has only himself to thank if a difficulty arises. And whether this be so or not in the present case, at any rate it is alleged.

Before the sittings of the Stannaries Court closed for the while, an important judgment was delivered as to rights under bills of sale in regard to mine property. In the matter of the Burra Burra Mine, Messrs. Twelvey, Williams, and Co., bankers, Truro, were called upon to show cause why they should not be restrained from selling the material, &c., on the mine under a bill of sale which they held. Two gentlemen had become the joint proprietors of the mine, and mortgaged it to the bankers. They failed to pay the debt, and the bankers took possession under the bill of sale, which had been duly registered. A creditor's petition was filed, and it was contended that a creditor had a lien on the material so long as they remained on the mine, and that a mortgage previously in existence to the debt being contracted did not put aside this customary lien. The Vice-Warden, however, held that the mortgagees have a legal prior claim, and the mortgagees have now advertised the materials for sale by auction.

The Exhibition of the Royal Cornwall Polytechnic Society will open this year on Tuesday, August 23, and the judging will take place on the day previous. Of late years, so great has been the influx of exhibits immediately prior to the exhibition, some indeed being delayed until the judges have completed their awards, that there has been very great difficulty in satisfactorily dealing with all matters forwarded. This difficulty, too, has been somewhat enhanced in certain of the sections by the extra duties thus thrown upon the judges, the increase in the number of their meetings, and to a certain extent by irregular attendance on the part of the judges. The judging lists have in process of time become so full that the responsibility has been too much divided. Hence a revision has been made, and the lists now only contain the names of those judges who have actually consented to act, a chairman, moreover, in each department being appointed by the committee, who will have the general charge of the judging details. By the new arrangements no article will be eligible for competition unless it is at the Institution a week previous to the judging day. Those who have any practical acquaintance with the working of the Society's exhibitions will know that this is a very salutary rule indeed.

It is rather unfortunate that the successful formation of the Mineralogical Society should have become an occasion of controversy, and that the claims of Mr. Readwin and Mr. Collins should have been pitted against each other. Here no doubt at all is felt that to Mr. Collins the successful formation of the society is due, and a candid examination of the facts will, we think, leave no doubt in the minds of the investigators that while to Mr. Readwin is clearly due the credit of having forcibly and persistently called attention to the chaotic condition of mineralogy, especially of mineralogical nomenclature, to Mr. Collins is due the credit of having suggested the remedy. The earliest proposal to form a society was contained in a letter by Mr. Collins in July, 1875; and to this "new idea," to quote his own words from his own letter, Mr. Readwin shortly afterwards gave his adhesion, while immediately subsequent again Mr. Collins distinctly formulated his views, and the prospectuses inviting membership were issued. Mr. Readwin's name appeared in one of the early prospectuses in conjunction with that of Mr. Collins, and he obtained some members, but unless we are very much misinformed he has never called or attended a meeting, while at the very first meeting of the new association Mr. Collins was unanimously accorded a vote of thanks for his labours in founding the society, and appointed to the office of secretary. That the movement had Mr. Readwin's cordial support is clear, and it is clear also that he energetically and earnestly directed attention to the need of something being done. But what that something should be was

first suggested by Mr. Collins, and it is due entirely (for without him the effort would have failed) to his strenuous exertion that the society was formed.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

March 15.—Unsettled weather has occasioned a steady demand for coal by householders, but the business is not nearly so good as it was at this time last year; for this the wider competition accounts. There is no falling off in the demand for coal for smelting purposes, but there is less doing this week than last in forge coal. Prices remain upon the basis of 11s. for furnace coal, and from 7s. 6d. to 8s. 6d. for forge coals. The demand for pig-iron of South Staffordshire and East Worcestershire makes it unequal to the supply, and stocks in makers' hands steadily accumulate, though there are instances in which easy prices being accepted the week's make goes off in the week. Quotations are the market round a shade easier upon the week. Bars, sheets, and plates are called for in only small lots, and to meet pressing requirements. No one will buy to stock, and makers who have booked orders find it difficult to get the specifications as fast as they need them. Foremost houses decline to sell within the recognised "List" prices, which are regulated by 9s. for marked bars.

Only little is doing in the local share markets in iron and coal property, which has not strengthened upon the week. Pelsall Coal and Iron 20s. shares (15s. paid) have sold since my last at 10s. 10s. discount; the Patent Shaft 5 per cent. preference shares of 10s., at 10s. 5s.; John Bagnall and Sons 10s. shares are offered at 3s. 15s.; and Darlaston Steel and Iron, with 10s. paid up, at 30s. per share. There are offers of 3s. 15s. for Chillington Company's shares, but holders want 7s. 6d. more money; 21s. is wanted for the 10s. shares of the Sandwell Park Colliery Company, 10s. under that figure being declined. Hamstead, and also Cannock and Huntington, are both to be had at 2d. discount; and the West Cannock old shares at 5s. discount—all without buyers at those figures.

A petition in Bankruptcy has been filed in the Oldbury County Court by Messrs. Pinchard and Shelton, of Wolverhampton, against John Johnson, trading as the Atlas Tube Company. The Court, on the nomination of the principal creditors, appointed Mr. W. G. Dixon, accountant, of Birmingham and Wolverhampton, receiver to the estate. The liabilities are stated to represent a considerable amount.

Advices from New York continue to speak of the considerable trade doing in the United States in arms and ammunition for Turkey, and merchants' reports from the Cape of Good Hope speak of the success of American competition in that colony with British edge tool and general hardware producers.

Nothing has yet been heard of the action which the colliers intend to take in relation to the notice by their employers to terminate the prevailing sliding scale arrangement.

In North Staffordshire coal rules weaker in price, without much demand either from the ironworks or the potteries. The pottery mine business is dull, and at the finished ironworks bars are alone in anything like request. Quotations of raw and finished iron and pottery mine are as low as vendors say it is possible for them to come.

The Sandwell Park Colliery Company held a meeting on Tuesday, at the Queen's Hotel, Birmingham—Mr. P. D. Bennett presiding. The meeting had been called for the purpose of approving and confirming the acts of the directors with reference to the surrender of the surface rights over 56 acres of land proposed to be given by Lord Dartmouth to the West Bromwich Commissioners as a public park; and also for approving a Bill now before Parliament to amend the South Staffordshire Mines Drainage Act, 1873, so as to exempt Sandwell Park from the operation of that Act. Mr. A. Keen asked if the directors had formed any estimate as to what the proceedings in Parliament to obtain a Bill would be likely to cost?—The Chairman replied that no one would be likely to know better than Mr. Keen the glorious uncertainty of the law, but the directors had every confidence that the cost would not exceed 700l. to 1000l.—Mr. S. Harding enquired whether the Sandwell Park Company were proceeding singly, or whether they were acting in conjunction with any other companies or individuals? He also remarked that he thought 700l. or 1000l. was below what the Act would probably cost. He was of opinion that, whatever the cost might be, the principle involved was one which should be contested until it was carried out.—The Chairman, in reply, said the Sandwell Park Company were acting entirely alone, and he regretted that Mr. Harding had, in the presence of the company's solicitor, suggested the possibility of a greater cost than had been stated.—The resolution was carried unanimously.

Mr. W. Tate, at the Blackwell Collieries, Derbyshire, late of the Cannock and Rugeley Colliery, Staffordshire, has successfully passed an examination, and has been awarded a certificate of competency as colliery manager.

Messrs. J. and T. Williams, of the Spring Vale Colliery, having worked out their deep mines, have stopped their large Tangye pumping-engine, which was laid down at a cost of 1500l. A meeting of the Darlaston Steel and Iron Company (Limited) has been held for approving a special resolution empowering the directors to sell, free from incumbrances, their leasehold collieries—the Essington Wood Colliery, the Spring Hill Colliery, and the Mitre Colliery, near Essington, in the parish of Bushbury, together with all engines, plant, &c., to a new company about to be formed. The new company will comprise a capital of about 50,000l., divided into 5000 shares, of 10s. each. The sale is to be effected conditionally on the new company paying the mortgagees of the Mitre Colliery the sum of 20,000l. with the interest thereon; also paying or satisfying debentures to the amount of 50,000l., and indemnifying the Darlaston Company's property therefrom.

REPORT FROM THE NORTH OF ENGLAND.

March 15.—The most important event of the past week has been the final adjustment of the sliding scale proposed for the regulation of wages in the Durham coal trade. Two meetings have been held on this subject since the date of my last report, one a conference of coalowners and miners on Friday last, which resulted in the adoption of a basis for the sliding scale, providing for the now prevailing rate of wages, which are based on about 5s. 0½d. per day for hewers, being varied as follows:—Reduced 5 per cent. if coal falls below 5s. 8d. per ton; reduced 7½ per cent. if coal falls below 5s. 4d. per ton; maintained if coal reaches 5s. 8d., but does not reach 6s. 4d. per ton; advanced 5 per cent. if coal reaches 6s. 4d., but does not reach 7s. per ton; advanced 10 per cent. if coal reaches 7s., but does not reach 7s. 8d. per ton; and an additional 5 per cent. advance in wages for every further fully attained 8d. of selling price. Another conference took place yesterday (Wednesday), when it was agreed that as regards surface-men the variations in their wages should be 4 per cent. in respect of every variation of 5 per cent. in underground wages, and that no able-bodied surface-man's wages should be brought below 2s. 9d. per day. It was also agreed that the sliding scale should come into operation on either April 2 or April 9, according as the pay-day falls at each colliery; and that the net selling price of coals should be previously ascertained by two accountants, the one appointed by the owners, and the other by the men. Thereafter, the net average selling price will be taken out every four months—in March, July, and November in respect of the four months preceding; and the results obtained will regulate wages for the four months succeeding.

In respect to the settlement of the provisions of the sliding scale the owners have withdrawn the notices recently given for a reduction of 10 per cent. in underground wages, and 6 per cent. in wages above ground, and the wages for the next four months will be determined by the result of the enquiry, upon which the accountants will immediately enter, to ascertain the net average realised selling price of coal throughout the county of Durham. The arrangements now arrived at do not apply to the respective associations of coke-men, engine-men, mechanics, and deputies, but it is understood that negotiations will be at once opened with the representatives of these associations, so as to have a new sliding scale applied to all.

An interesting discussion took place at the Cleveland Institute of Engineers this week on a paper read by Mr. C. E. Bainbridge, of

Middleton-in-Teesdale, on "Improved Machinery for Making Peat Fuel, with suggestions as to the special application of peat for fuel and other purposes." It seems that Mr. Bainbridge is co-partner with Mr. Hall, of Leeds, of a peat cutting machine, which is now in operation at the works of the London Peat Company in Teesdale. The miners employed in this district, being inconveniently situated in respect of the supply of coal, are furnished by the company with peat fuel made by this machine, which is designed to supersede machines constructed on the principle of Clayton, Son, and Howlett's apparatus. In the new machine described by Mr. Bainbridge a somewhat complicated arrangement of external mechanism is avoided, the duration of the process of compressing the peat is considerably shortened, the cutting action is improved and simplified, and the output thus increased, while it is claimed that the presence of air and water in the numerous arteries and vessels is destroyed, and the complete separation and disintegration of every particle of fibre secured. The making of peat charcoal by this process will, says Mr. Bainbridge, "enable the ordinary labourer employed to be engaged in profitable production for a longer period of the year, and to a large extent independent of the weather. It also allows a greater number of machines to be worked during the summer months, stocking the surplus production of condensed peat for conversion into charcoal during the winter, and largely enhancing the total output per man in proportion to the necessary plant required. When the situation allows, the waste heat given off from the carbonisers can be utilised in raising the temperature and drying the currents of air passing into the drying sheds, by conducting such waste heat through a series of flues under the sheds to a chimney stack." The cost of producing peat charcoal by this system is inconsiderable, and having regard to the great variety of uses to which charcoal can be applied, there is no doubt a considerable field for its more extended manufacture.

The Iron Trade of Cleveland is pretty much in the same state as when I last wrote. If anything it is perhaps a trifle more depressed. Certainly the prices quoted on Change this week have been lower than those of the past fortnight, and No. 3 has been offered as low as 42s. 6d. per ton, a price at which it is hardly possible to produce it. The demand from foreign sources is extremely limited, nor does it exhibit any tendency towards improvement. Most of the large makers in Cleveland are laying up large stocks of pig-iron, hoping to be able to realise at a profit when trade takes a turn, but the smaller firms, who can hardly afford to lie out of the capital which this step involves, have been compelled in many cases to take what they could get. It is impossible the trade can continue as it is for any length of time without compelling makers of pig-iron to blow out a number of their furnaces. In the finished iron trade there is really no change.

The annual meeting of the Iron and Steel Institute, to be held in London next week, is expected to be very interesting. There are several good papers to be read, one of them by Mr. H. Simon, of Manchester, on "The Chaudron System of Sinking in Water-Bearing Upper Strata," which is now being adopted at the Whitburn Colliery, near Sunderland.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

March 15.—In the lead districts business appears to be rather quiet, the trade, unlike that of coal, not being subject to any fluctuations worth speaking about, whilst the miners, by no means a numerous body, are content with something like ordinary labourers' wages. Speculation seems to be almost out of the question, for there has not been more than one company started—and that on a very small scale—for a considerable time past, whilst the output of ore has decreased of late years. It is true that lead was raised in Derbyshire by the Romans, but that does not say it is all but exhausted. Be that as it may, the working of lead ore appears to be tabooed by capitalists so far as Derbyshire is concerned, yet there are localities where it could be worked at as great a profit as many of the mines in North Wales. Coal mines do not pay now so well as they did by a long way, and many colliery proprietors complain that they are working without any profit whatever. The reduction of colliers' wages in Derbyshire has been pretty general, and, with few exceptions, the men have accepted the terms offered without much hesitation. In some instances, no doubt, they have done this knowing that there was no association to fall back upon, otherwise things might have been different. At Unstone, however, the men refused the terms proposed, and went out on strike, on the ground that they were asked to concede more than the 6½ per cent. which was the reduction agreed to by the colliery owners and their men throughout the district. There is nothing like an example to the young, especially if they are ignorant, and of this we had a case in point a few days ago. At the Renishaw Colliery, near Eckington, it was agreed that whilst the men in the pits should be reduced 5 per cent., the daymen should have 3d. per day and the boys engaged as pony drivers 2d. a day less. The latter refused the proposal, although told afterwards that the best of them would be continued without reduction. However, on going to the colliery in the morning, the lads all met together, and had a regular meeting, when they agreed not to resume work unless at the old rate of wages. The consequence was that all the pits had to stand, and along with them something like 1000 hands. As to the Coal Trade, it has undergone very little change during the last week or two, and is far from being so active as might have been expected with the cold weather that has prevailed. The business doing with London has been moderate, and this is abundantly shown by the fact that during the last two months there passed over the Midland Railway to the metropolis 41,000 tons less than for the corresponding period of last year, whilst prices are still low, owing to the competition that exists between the seaborne and inland coal. At the ironworks in Derbyshire a steady business has been done both in foundry and mill materials, whilst there has been no falling off in the production of Bessemer rails.

Taking the Sheffield trades altogether, they are by no means so active as they were five or six weeks ago. The heavy armour-plate mills, that commenced the year tolerably well, and were expected to have a long season of prosperity in store, are now working little more than half time. Bessemer steel, in the shape of rails and forgings, appears to be about the best branch we have, and the mills are running very well. Some fair orders have come to hand from the colonies for light implements, machine knives, and tools. As yet there has been no material improvement in the business doing with America, but now that the Presidential question is settled hopes are entertained that orders will shortly be placed. A little more is being done in the best descriptions of cutlery, but inferior qualities are still very quiet. The foundries are doing very well, not only in the town, but in the district, as well in heavy and other castings. The collieries are in the same position they have been for several weeks, very few of them working full time; whilst at some of them there are stacks of steam coal on the pit-banks. One or two strikes have taken place in the Rotherham district, where the carpenters at a large wagon-building works refused to submit to a reduction of wages; and another where some labourers would not make a small concession. These strikes, however, are by no means serious, and generally last but a few days.

In the South Yorkshire district—which may be taken as the extensive area comprising ironworks and collieries between Sheffield and Barnsley—trade has undergone no material change. The foundries have been well employed in pipes, pistons, ranges, stores, and other colliery workings. The 6½ per cent. reduction has been almost generally accepted by the miners. At Darfield Main, where the men allege that the proposed reduction would amount to from 15 to 30 per cent., the men are on strike against it. A considerable number of those on strike are scouring the district for support in the shape of either money or kind. On Tuesday a large party visited Barnsley, a number of them being harnessed with ropes to a wagon, into which was placed the contributions of the benevolent. Before it started from home it contained a considerable number of loaves of bread, together with hams, meat, potatoes, and various other eatables. A good sum of money was also given by publicans, shopkeepers, and others, and the strike looks as if it was going to be a protracted one.

The Industrial Coal and Iron Company, which is engaged in sink-

them. The capital is 25,000*l.*, against 45,000*l.* in West Tankerville, and 90,000*l.* in Roman Gravel. This company has decided to issue 500 debentures of 5*l.* each, bearing interest at the rate of 10 per cent. per annum, with a bonus of 10*l.* each when the debentures are redeemed. The object is to erect grinding machinery, to make merchantable the large quantity of felspar sand at present washed out of the china clay, for which there is a market at a large profit. The plant of the company is now in full working order.

J. GRANT MACLEAN, Stock and Share Broker.

For Office Buildings, Stirling, March 15.

ECHOES FROM THE MINING MARKET.

Tempting prices remain the order of the day, yet the tone of the market is a healthy one; and whenever the attention of the public is seriously turned to mining shares we shall have an exceedingly brisk demand. Lead shares are still in good favour, although the price is rather lower in value. Foreign shares have been slightly depressed, and Exchequer, Flagstaff, and Richmond have been offered; but the demand which set in at the reduced quotations of the two first named mines has prevented any important reduction in value. In other shares, Van Consols are at the close, and Parys Mountain have declined to 3/4, upon rumours affecting the financial position of the company. We understand the prospects in the latter case are not so good as they were, but this is a matter which may alter in the course of the year. The shares have been in rather better demand. Cathedral are at 1 1/4, and again attracting attention. The levels at the 52 are being pushed forward as rapidly as possible to lay open stopping ground for the rich ore discovered in sinking the shaft.

The Glen Mine shaft is in course of sinking 5 fms. deeper, when the levels at the Glen Mine and the shaft in the lode. A sale of 100 tons of lead ore has just been made at Leadhills, realising 135*l.* At Roman Gravel the lode in the 106 is being worked at 30 tons of lead to the fathom. The mine is stated to be looking exceedingly well. Two levels have nearly reached the West Tankerville boundary, and arrangements could only be made for continuing these into the latter mine if the West Tankerville mine could be worked. It is hoped that the new mine will be greatly benefited by the West Tankerville mine. The 42nd level is looking very well, and is in good ore. In the 25, if there were sufficient "dead" to fill in the stop, one pair of men, we hear, could soon get sufficient "dead" to fill in the stop. The 6th shaft is now down to the 25, and the men are rising from the 42 to effect a junction. When communication is made the returns will be increased. From Tankerville 100 tons of lead were sold on Thursday, realising 140*l.* The mine continues to look well. West Tankerville sale (35 tons of lead 140*l.* of blends) realised within a few pounds of 600*l.* It is expected that regular sales of lead will now commence at Van Consols. There is a good course of lead ore in the new drawing-shaft, the sinking of which will be resumed next week. North of the new drawing-shaft, the sinking of which will be resumed next week. Great Lacey is reported to be looking well, and lead ground is being opened up. Great Lacey shares are very firm. The last sale (100 tons of lead) realised 2437*l.* There is no change at the mine.

The following is the news of the week from Cornwall.—East Pool meeting will be held on Monday next; opinions are divided as to dividend. Some expecting a dividend of 10 per cent. on last, others none at all. At New Cook's Kitchen the price is opening out well, and the shares are steady. Killfret has slightly improved. Lead shares have been in fair demand; the mine is looking well, and the additional boring machines have arrived. It is hoped that the new mine will be greatly benefited by the West Tankerville mine. The 42nd level is looking very well, and is in good ore. In the 25, if there were sufficient "dead" to fill in the stop, one pair of men, we hear, could soon get sufficient "dead" to fill in the stop. The 6th shaft is now down to the 25, and the men are rising from the 42 to effect a junction. When communication is made the returns will be increased. From Tankerville 100 tons of lead were sold on Thursday, realising 140*l.* The mine continues to look well. West Tankerville sale (35 tons of lead 140*l.* of blends) realised within a few pounds of 600*l.* It is expected that regular sales of lead will now commence at Van Consols. There is a good course of lead ore in the new drawing-shaft, the sinking of which will be resumed next week. North of the new drawing-shaft, the sinking of which will be resumed next week. Great Lacey is reported to be looking well, and lead ground is being opened up. Great Lacey shares are very firm. The last sale (100 tons of lead) realised 2437*l.* There is no change at the mine.

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THE WEEK.

SATURDAY, MARCH 10.—In the miscellaneous department the shares of the Credit Company, formerly known as the Credit Foncier, were in some demand, and dealt in at 1*l.* 10*s.* Hudson Bay fetched 13*s.*; National Discount, 10*s.*; Peninsular and Oriental, 39*s.*; By the Sea, 12*s.*; and Crystal Palace, 19*s.* The general markets were exceedingly inanimate, owing to this being the last day of the old account; there was no change in railways exceeding a quarter. Anglo-American stocks were dull upon the serious falling off in the receipts caused by the rigorous competition with the Direct Company. Yesterday they only took 540*l.* MONDAY.—Backwardations were charged to-day on Birmingham, Midland, and York, A. stocks, but the fall later in the day was more than sufficient to recoup speculative sellers. The first named especially suffered, when the back from being 3/4 fell to 3/8. The last price was 147 1/2, being quite a drop. The back on Midland was 3/4, and the fall to 1/2. Another stock prominently depressed was Brighton, A. which of late has been pushing up a great deal. A good traffic return was looked for, but when only an increase of 25*l.* was shown there was an immediate drop of 3/4 to 108 1/2. Great Western was almost the only stock that showed steadiness. It was mentioned that some large purchases were likely to be made during this account. After Wednesday the quotation will be ex div., which will bring the price below 108, the lowest, with the exception of last year's panic month, since 1871. Foreign bonds showed very little feature, a rise of 3/4 in Peruvian of 1875 to 1876, on French buying, being almost the sole change. East Van improved to 7 1/2; Eberhardt receded to 8 1/2. Flagstaff from being dull at 3, improved to 3 1/2. Chicago, 4 1/2 to 4 3/4. Pennerley, 18*s.* to 17*s.* 6*d.* Parys Mountain, 8*s.* to 10*s.* Ashton, 1 1/2 to 1 3/4. Van Consols, 2 3/4 to 3. Anglo-rose, 2 to 5 1/2, and Direct, 12*s.* 6*d.* to 11 1/2. It was stated that rates would be raised to 2*s.* per word. TUESDAY (Name day).—Russian of 1873 closed above 83, but was at one time considerably higher, mainly on account of the rate for continuing having stiffened from 1/2 per cent. to 3/4 per cent. Egyptians were also a firm market; the 1873 loan closed at 45 1/2 to 46 1/2, and the Khedive 37 1/2 to 37 3/4. American securities were firm; especially Philadelphia and Reading bonds were 87 1/2 to 87 3/4, and Illinois 85 1/2 to 85 3/4. Railways recovered somewhat from yesterday's depression, Midland moving up to 127 1/2, Great Eastern to 51 1/2, and yesterday to 124 1/2. Great Western remained a firm market, at 104 1/2—the quotation will be ex div. tomorrow. Richmond, 6 1/2 to 6 3/4; week's run, 48,000. Flagstaff, 3 1/2 to 3 3/4; Eberhardt, 8 1/2 to 17 1/2.

WEDNESDAY.—The settlement was concluded to-day without any difficulty. Bankers' rates were 1/2 to 1 1/2, and all the other departments were buoyant, mainly because "hears" were closing, having come to fancy all at once that affairs on the Continent appear more inclined to peace. Russians were very strong, and next to them Egyptian and Hungarian bonds. The former rose to 84 1/2, while Egyptians fell off at 45 1/2, the 1873 loan being in question in both instances. Portuguese, 83 1/2 to 84 1/2; Spanish, 11 1/2 to 11 3/4; San Domingo, 5 to 7; Paraguay, 7 to 9. The greatest change in the railway market was a rise of 3/4 in Great Western, Dover, A. Sheffield, and Berwick. The first named closed 103 1/2 to 103 3/4, ex div.; Great Eastern was 51 1/2 to 52. In mines Flagstaff was very firm, market advancing 1/2 to 3 1/2.

THURSDAY.—There appears to be a chance of the unfortunate Cornwall Minerals Railway seeing better times should negotiations now in force with the Great Western Railway terminate successfully. From the report just issued, it appears that the directors with the Great Western to work the line, allowing 15,000*l.* a year, increasing ultimately to 18,000*l.* The Great Western are to guarantee the interest on the Cornwall Company's debenture stock, and to have the option of purchasing the line, then paying 4 per cent. on the preference shares, and 2 1/2 per cent. on the ordinary ones. The price for the preference shares has been for some time about 40*l.* (100*l.* paid). The markets were quiet to-day, and rather inclined to dullness. Dover, A. was at one time in prominent request at over 115, but relapsed later on to 114 1/2.

FRIDAY (Opening).—The markets are decidedly firm, and Consols have recovered the eighth last night, being 96 1/2 to 96 3/4. Caledonian are strong at 125 1/2, and Great Western at 103 1/2, but British are dull at 98 1/2 to 98 3/4. Midland, 127 1/2 to 128 1/2; Great Eastern, 51 1/2 to 51 3/4; Dover, A. 114 1/2 to 114 3/4. Russian, of 1873, are 83 1/2 to 84 1/2, and Egyptian, 45 1/2 to 46 1/2. In mines, Eberhardt are 8 1/2 to 9; Flagstaff, 3 1/2 to 3 3/4; Richmond, 6 1/2 to 6 3/4; Van Consols, 2 3/4 to 2 5/8; New Quebec, 4 1/2 to 4 3/4; Don Pedro, 8*s.* to 10*s.*; Sierra Buttes, 1 1/2 to 2. Consols have improved, 96 1/2 to 96 3/4. Russian are very strong, being 85, while Egyptian are 50. Railways do not show much fresh features. Dover, A. has improved to 115, while Great Eastern have given way to 51 1/2. Caledonians are now as high as 125 1/2. Four of Clock.—There is in some of the departments a slightly easier tone, but Consols are unaltered, so are Russian, while Egyptian are 50 1/2 to 50 3/4. But, on the other hand, Dover, A. can be had below 115, and Caledonian have given way 1/2. British are now 98 1/2 to 99. Rookehoe mining shares leave off flat, at 15*s.* to 17*s.*; North Lacey are 16*s.* to 18*s.*; Van Consols, 2 3/4 to 2 5/8; and Glen, 15*s.* to 16*s.*—Birkenhead, March 10.

FERDINAND R. KIRK.

In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACTS, 1862 and 1867, and of the NEW CONSOLS SILVER AND ARSENIC WORKS (LIMITED).—Notice is hereby given, that a PETITION for the WINDING UP of the above-named company by the Court was, on the 13th day of March instant, presented to the Vice-Warden of the Stannaries by Sir James Anderson, of 16, Warrington Crescent, Paddington, in the county of Middlesex, Knight, a shareholder, and claiming to be also a creditor of the said company, and that the said petition is directed to be heard before the Vice-Warden, at the Law Institution, Chancery Lane, London, on Monday, the 26th day of March inst., at Twelve o'clock at noon. Any contributory or creditor of the company may appear at the hearing and oppose the same, provided he has given at least two clear days' notice to the petitioner, his solicitors, or their agents of his intention to do so, such notices to be forthwith forwarded to P. P. SMITH, Esq., Secretary of the Vice-Warden, Truro. Every such contributory or creditor is entitled to a copy of the petition and affidavit verifying the same from the petitioner, his solicitors, or their agents, within 24 hours after requiring the same, on payment of the regulated charge per folio. Affidavits intended to be used at the hearing, in opposition to the petition, must be filed at the Registrar's Office, Truro, on or before the 22nd day of March instant, and notice thereof must at the same time be given to the petitioner, his solicitors, or their agents.

HODGE, HOCKING, AND MARRACK, Truro, Cornwall.

(Agents for Messrs. Flux and Co., 3, East India Avenue, London, Petitioner's Solicitors.)

Dated Truro, 14th March, 1877.

In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the EAST WHEAL GRENVILLE MINING COMPANY.—ALL CREDITORS or CLAIMANTS of the above-named company, who have not received notice from the Official Liquidator thereof that their claims have been already admitted, are hereby required to COME IN and PROVE their SEVERAL DEBTS or CLAIMS, at the Registrar's Office, Truro, on Monday, the 26th day of March instant, at Eleven o'clock in the forenoon; or, in default thereof, they will be EXCLUDED from the BENEFIT of any DISTRIBUTION made before such proof. And for the purpose of such proof they are to attend in person, or by their solicitors or competent agents, at the time and place above mentioned.

FREDERICK MARSHALL, Registrar.

Dated Registrar's Office, Truro, the 14th day of March, 1877.

In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the EAST WHEAL GRENVILLE MINING COMPANY.—TENDERS will be RECEIVED by the Official Liquidator of the said company, at the Stannaries Court Office, in Truro, in the county of Cornwall, on or before the 24th day of March instant, stating the HIGHEST PRICE which will be given for the whole or any portion of the undermentioned

MACHINERY AND MATERIALS,

Now being at EAST WHEAL GRENVILLE MINE, in the parish of CAMBORNE, within the said Stannaries, and belonging to the said company:—ONE 60 in. cylinder PUMPING ENGINE, 9 by 8 ft. stroke, ONE 10 ton BOILER, with fittings, horse wheel, with 60 fms. wire rope capstan. To inspect the above, apply to the Bailiff in charge at the said Mine; and for further particulars, to Mr. CHARLES WILLIAM CLINTON, the said Official Liquidator, at the Stannaries Court Office, Truro.

HODGE, HOCKING, AND MARRACK, Truro.

(Solicitors for the Official Liquidator.)

Dated Stannaries Court Office, Truro, March 14th, 1877.

VALUABLE MINING PROPERTY FOR SALE.

THERE WILL BE SOLD, BY PUBLIC AUCTION, within the Faculty Hall, Glasgow, on Wednesday, the 25th April, 1877, at Two o'clock afternoon, the PROPERTY of the GALWAY MINING COMPANY (LIMITED), in Liquidation, in One or more Lots, to suit purchasers. The property consists of (1) the LEASES of about 1350 acres of LAND, containing TWO MINES, which have been partially worked and explored; (2) the BUILDINGS at the mines, consisting of blacksmiths' shops, workmen's houses, stores, &c.; (3) MACHINERY, consisting of horizontal ENGINE, water-wheel, pumping gear, &c. The Liquidators are also PREPARED TO SELL the STORES of WOOD, &c., and MINING UTENSILS. The leases, inventory, and other papers may be seen in the hands of the subscriber, who will supply full information to intending purchasers.

17th March, 1877. J. H. M. BAIRNSFATHER, Solicitor, Hamilton.

VALUABLE MINING PROPERTY FOR SALE.

PRELIMINARY ADVERTISEMENT.

THERE WILL BE SOLD, BY PUBLIC AUCTION, within the Chambers of the Liquidator, 115, Wellington-street, Glasgow, on Friday, the 22nd day of June, 1877, at Twelve o'clock noon, the PROPERTY of THE CONCORDIA COPPER COMPANY, IN LIQUIDATION.

As situated in Namaqualand, in the Colony of the Cape of Good Hope. The property consists of—(1) The Leases of about 380 acres of LAND, containing FIVE MINES, which have been partially worked and explored.—(2) The Buildings at the Mines, consisting of manager's residence, offices, blacksmiths' shops, stables, &c.—(3) Machinery, consisting of horizontal Engine, water lift, pumping gear, &c. The Liquidator is also PREPARED TO SELL the office and house furniture, the stores of wood, iron, steel, rope, and mining utensils (the latter amounting as per inventory to about £2000), and the purchaser of the above will have the option of acquiring these at a valuation or otherwise, as may be arranged. For further information, apply to JAMES MACROBBIE, Liquidator, 115, Wellington-street, Glasgow.

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DIVIDEND FOR FEBRUARY, 1877.

NOTICE IS HEREBY GIVEN, that the DIRECTORS of HOLMBUSH (LIMITED) have DECLARED a DIVIDEND of SIX-PENCE PER FULLY PAID SHARE for the month of February, 1877, and that Holders of Share Warrants can obtain payment of the same on application to me, at 150, Palmerston Buildings, Bishopsgate-street, London, E.C., on and after the 5th day of March instant. By order of the Board, S. BOOME, Registrar. London, March 3rd, 1877. N.B.—The official price of the shares has been raised to 27*s.* 6*d.* until further notice.

SALE OF ARSENICAL ORES.

NOTICE IS HEREBY GIVEN, that the Directors of HOLMBUSH (LIMITED) are prepared to RECEIVE TENDERS for the PURCHASE of their MARCH PARCEL of ARSENICAL ORES (estimated at about 650 tons) containing various Metals in addition to Arsenic. The conditions of sale and Forms of Tender (to be sent in not later than the 31st March) may be had on application to the company's agents, Messrs. H. G. LORD and Co., 146, Palmerston Buildings, Bishopsgate-street, London, E.C. By order of the Board, S. BOOME, Registrar.

NEW CONSOLS TIN AND ARSENIC WORKS, CORNWALL.—The Advertiser is compelled to DISPOSE of HIS SHARES in this PROMISING COMPANY, will entertain ANY REASONABLE OFFER FOR THREE HUNDRED SHARES. Address, "A. Z.," at Horncastle's Central Advertisement Office, No. 2, Queen-street, Cheshire, E.C.

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THE CAPE COPPER MINING COMPANY (LIMITED).

Notices is hereby given, that at a meeting of the directors of this company, held on Friday, the 2nd day of March, 1877, that a DIVIDEND of TWENTY SHILLINGS PER SHARE, free of income tax, be and is hereby declared, PAYABLE on the 24th day of March instant, to the shareholders on the books of the company on the 17th instant, and that the Transfer books be closed during the said 17th instant. By order of the Board, J. C. LEAVER, Secretary. 6, Queen-street-place, London, 14th March, 1877.

THE LUSITANIAN MINING COMPANY (LIMITED).

Notice is hereby given, that the ANNUAL GENERAL MEETING of this company will be HELD at this office, on TUESDAY, the 27th day of March inst., at Three o'clock in the afternoon, to receive the reports and accounts for the year ending 30th September, 1876, and for general purposes. At this meeting two directors, viz.—Henry Reeve, Esq., and John Henry Schmidt, Esq.—will retire from office by rotation, but are eligible, and offer themselves for re-election. One of the auditors, Edward John Bunney, Esq., will also go out of office at this meeting, but is eligible, and offers himself for re-election. By order of the Board, W. G. WILLIAMS, Secretary. 6, Queen-street-place, London, E.C., March 13, 1876.

RICHMOND CONSOLIDATED MINING COMPANY (LIMITED).

NOTICE TO DEBENTURE HOLDERS.

The directors hereby give notice, that the COUPONS due and payable on the 25th March instant will be PAID on and after SATURDAY, the 24th instant, at the company's bankers, the Union Bank of London, Prince's-street, E.C. By order of the Board, THOS. WESTBURY HALL, Secretary. 44, Coleman-street, E.C., 13th March, 1877.

IT IS IMPORTANT that ALL SHAREHOLDERS should READ the SHARE INVESTMENT CIRCULAR of the London and Continental Exchange, No. 25, Finsbury-place, London, E.C., forwarded post free for two stamps, containing valuable information on Welsh and Cornish Mining; Letters from a Broker to his Client. WEST TREASAVAN MINE specially recommended.

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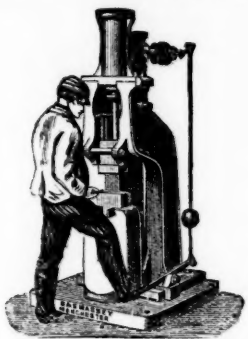
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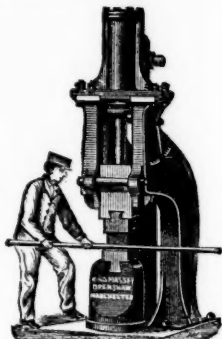
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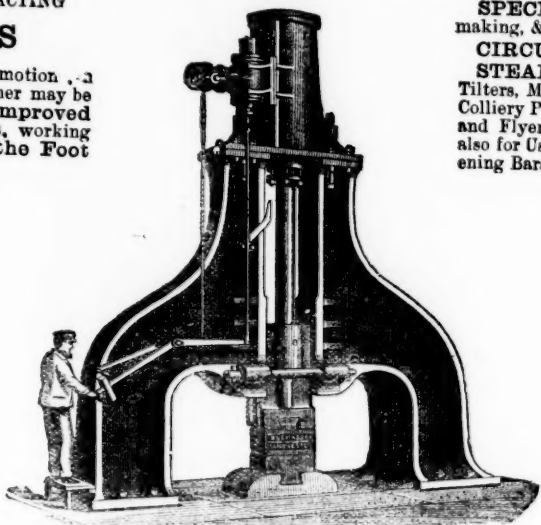
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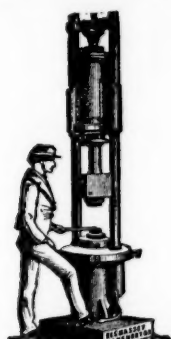
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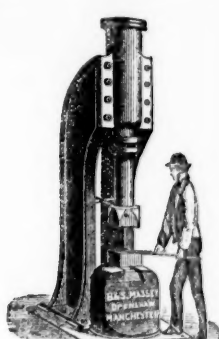
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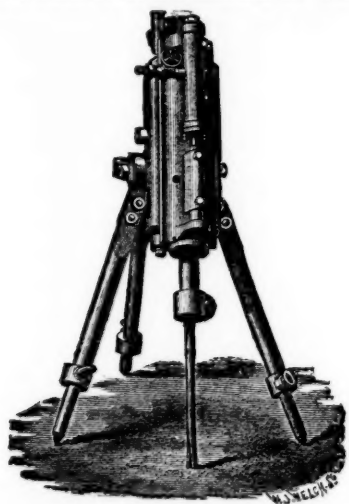


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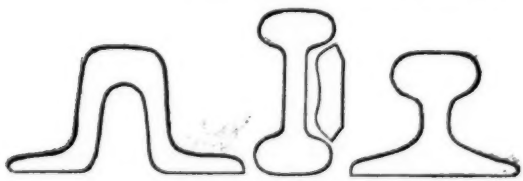
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Locomotive Engine, Railway Carriage and Wagon

Springs and Buffers.

THE MINING SHARE LIST.

BRITISH DIVIDEND MINES.

Share.	Africa	Pa. id.	Last wk.	Co. pr.	Total disc.	Per sh.	Last pd.
1548.	Alderley Edge, c, Cheahre*	10 0 0	—	—	12 11 8.	0 8.	Jan. 1876
15000	Bainmyneer, c, Wendon (4000 to is.)	1 0 0	—	—	0 2 0.	0 2.	Nov. 1875
30000	Bainmyneer, c, m., Devon*	1 0 0	1 5 1/2	1 3 1/2	0 2 0.	0 2.	June 1876
2000	Bottlehead, c, St. Just	119 5 0	30	25 30	619 15 0.	5 0.	Aug. 1872
4000	Brookwood, c, Buckfastleigh	1 16 0	2 1/2	2 1/2	3 16 0.	0 2.	Nov. 1875
2000	Bryn Allyn, c, L. Denbigh (101. sh.)	8 0 0	8 1/2	8 8 1/2	0 7 0.	0 7.	Jan. 1877
5248	Cargy, s., Newlyn	6 6 0	6	8 1/2	4 16 3.	0 12 1/2.	Oct. 1872
4000	Cashwell, c, Cumberland*	—	—	2 1/2	1 9 8.	0 2 0.	Aug. 1876
1000	Carr Brea, c, t, Illogan*	75 0 0	8 1/2	35 37	3 5 0.	1 0.	Feb. 1874
2450	Cook's Kitchen, c, Illogan*	23 9 9	8 1/2	3 3 1/2	11 17 0.	6 5.	Jan. 1877
1024	Crabtree, c, t, Tavistock*	1 0 0	4 1/2	3 4	116 10 0.	12 0.	Aug. 1876
4298	Deoloth, c, c, Camborne	10 14 10	3 1/2	35 37	111 1 3.	0 7 6.	Jan. 1877
5000	East Black Craig, c, t, Scotland.	8 0 0	6 1/2	5 1/2	0 10 0.	0 10 0.	Feb. 1877
6148	East Caradon, c, St. Cleer†	2 14 6	1 1/2	1 1/2	14 19 0.	0 2 0.	Oct. 1872
300	East Darren, c, Cardiganshire	32 0 0	—	—	235 10 0.	1 0 0.	Aug. 1876
6400	East Pool, t, c, Illogan	0 9 9	11	10 11	14 18 3.	0 2 0.	Dec. 1876
2800	Foxdale, c, Isle of Man*	25 0 0	—	—	82 6 0.	0 10 0.	Feb. 1876
40000	Glasgow Carr, c, 30,000 £1 p., 10,000 lbs. p.	18 0 0	1 1/2	1 1/2	0 12 4.	0 6 8.	Mar. 1877
15000	Great Dyffide, t, t, Montgomeryshire	—	5	8 1/2	0 15 0.	0 2 6.	Apr. 1876
16000	Great Laxey, c, t, Montgomery	4 0 0	21 1/2	20 1/2	21 3 0.	1 0 0.	Jan. 1877
618	Great Retall, c, t, Perranzabuloe	5 18 6	1 1/2	1 1/2	0 16 0.	1 0 0.	Aug. 1876
35000	Great West Van, t, Cardigan*	2 0 0	3 1/2	3 1/2	0 2 0.	0 4 0.	Aug. 1874
6400	Green Hurth, c, Durham*	0 6 0	3	2 1/2	1 12 0.	0 4 0.	Oct. 1877
20000	Grogwinnion, c, Cardigan*	2 0 0	5 1/2	4 1/2	0 12 0.	0 4 0.	Feb. 1877
9830	Gunnislake (Clitters), t, c	8 5 0	2 1/2	2 1/2	0 13 9.	0 1 0.	Oct. 1876
1024	Herodsfoot, c, near Liskeard†	8 10 0	2 1/2	2 1/2	62 5 0.	0 15 0.	Oct. 1872
18000	Hington Down, c, Calstock†	1 0 0	3 1/2	3 1/2	0 1 0.	0 1 0.	Nov. 1875
6000	Holmbush, c, c, s., Callington*	1 0 0	1 1/2	1 1/2	0 1 0.	0 0 8.	Mar. 1877
25000	Kilaboe, s., Tipperary	1 0 0	—	—	0 1 1 1/2	0 6 8.	Mar. 1873
400	Lisborne, c, t, Montgomery	8 0 0	80	70 80	579 10 0.	4 6 0.	Jan. 1877
14000	Llanidloes, c, t, Montgomery	3 0 0	3	2 3	0 17 0.	0 1 6.	Nov. 1876
9124	Llanidloes, c, t, Wendon	0 16 0	—	—	0 17 0.	0 1 6.	Nov. 1876
9000	Market Valley, c, Linkinhorne	5 0 6	1 1/2	1 1 1/2	7 15 0.	0 2 0.	Jan. 1876
1000	Melindur Valley, c, Cardigan*	3 0 0	1 1/2	1 1/2	0 7 2.	0 3 0.	Jan. 1876
4000	Minera Mining Co., t, Wrexham*	6 0 0	21	19 21	66 16 2.	0 8 0.	Feb. 1877
20000	Mining Co. of Ireland, c, c, t, *	7 0 0	5 1/2	5 1/2	23 11 6.	0 3 6.	Jan. 1876
512	North Busy, c, Chacewater	3 9 6	8 1/2	8 8 1/2	0 10 0.	0 10 0.	Dec. 1875
10189	North Hendre, t, Wales	2 10 0	—	—	1 7 6.	0 2 6.	Dec. 1876
2000	North Levant, t, c, St. Just†	12 2 0	—	—	4 13 0.	0 12 0.	Sept. 1873
27855	Old Trebureger, s., t, Ordinary shares	1 0 0	—	—	0 0 0.	0 0 0.	Feb. 1874
9258	Old Trebureger, s., t, (10 per cent. pref.)	1 0 0	1 1/2	1 1/2	0 4 0.	0 0 0.	July 1874
5000	Pendall, St. Agnes	3 0 0	2 1/2	2 1/2	3 13 6.	0 8 0.	July 1875
45793	Pennruth, s., t, c, Gwennap	2 0 0	3 1/2	3 1/2	0 2 8.	0 2 0.	Nov. 1876
12000	Phoenix, & W. Phoenix, t, c, Link. s.	3 4 9	4 1/2	4 1/2	2 9 6.	0 4 0.	Nov. 1872
18000	Prince Patrick, c, t, Holywell	1 0 0	2 1/2	1 1/2	0 16 0.	0 1 3.	Jan. 1876
1120	Providence, t, Lelant†	18 6 7	—	—	104 12 6.	0 10 0.	Sept. 1872
12000	Roman Gravel, c, Salop*	7 10 0	14	13 14	7 1 6.	0 8 6.	Mar. 1877
512	South Caradon, c, St. Cleer	1 8 0	125	115 125	754 0 0.	3 0 0.	Jan. 1877
6128	South Condurrow, c, c, Camborne†	6 8 8	6 1/2	6 1/2	2 6 0.	0 4 0.	Jan. 1877
12000	St. Harmon, s., t, t, Gwennap	3 0 0	3 1/2	3 1/2	0 3 0.	0 3 0.	Jan. 1877
10000	St. John, c, t, t, Gwennap, issued	3 0 0	—	—	0 3 0.	0 3 0.	Jan. 1877
1200	St. Kenegon, c, t, Salop*	6 0 0	9	8 1/2	4 17 0.	0 10 0.	Oct. 1876
6000	Tincroft, c, t, Pool, Illogan†	9 0 0	21	19 20	50 3 6.	0 5 0.	Mar. 1877
15000	Van, c, Llanidloes*	4 8 0	38	36 38	19 16 0.	0 15 0.	Dec. 1877
3800	W. Cliverton, c, t, Perranzabuloe†	12 10 0	19	18 19	55 0 0.	0 10 0.	Jan. 1877
1783	West Pollice, St. Day	10 0 0	13	11 13	1 19 0.	0 4 0.	July 1876
512	West Tolgus, c, Redruth	95 10 0	60	59 61	18 15 0.	1 0 0.	Feb. 1877
2048	West Wheal Frances, t, Illogan	27 13 9	5	4 1/2	3 12 6.	0 8 0.	Oct. 1872
12000	West Wheal Valley, c, t, Montgomery	3 0 0	3 1/2	3 1/2	0 6 0.	0 3 0.	Nov. 1876
512	Wheal Bann, c, c, Illogan	17 2 0	9	7 9	658 10 0.	1 10 0.	Aug. 1872
1024	Wheal Eliza, c, c, t, St. Agnes	23 0 0	2	1 1/2	15 0 0.	0 5 0.	July 1876
2048	Wheal Jane, t, Kea	2 13 10	3	2 1/2	11 19 6.	0 2 0.	Aug. 1876
4298	Wheal Kitty, t, St. Agnes	5 4 8	2	2 1/2	11 19 6.	0 2 0.	Aug. 1876
80	Wheal Owies, t, St. Just†	88 8 0	140	130 140	522 10 0.	4 0 0.	Aug. 1876
6000	Wheal Prussia, t, Redruth	2 0 0	4 1/2	4 1/2	0 3 0.	0 2 0.	Dec. 1875
35000	Wicklow, c, s., t, Wicklow	2 10 0	2	1 1/2	52 9 0.	0 2 6.	Mar. 1872
10000	Wye Valley, c, t, Montgomery*	3 0 0	6	5 1/2	0 10 6.	0 4 0.	Oct. 1876

FOREIGN DIVIDEND MINES.

85000	Altamirós, <i>l</i> , Spain*	2 00	...	2½	...	1½	2½	...	117 30	...	1 00	Mar. 1877
20000	Aimada and Tirito Consol., <i>s</i> †	1 00	...	1	...	¾	¾	...	0 6	...	0 00	May 1876
20000	Australian, <i>c</i> , South Australiat	7 78	...	2½	...	1¾	2½	...	0 18	...	0 26	Aug. 1876
10000	Battle Mountain, <i>c</i> , (6240 part pd.)	5 00	...	—	...	—	—	...	0 10	...	0 10	Nov. 1877
10000	Birdseye Creek, <i>g</i> , California*	4 00	...	¾	...	¾	¾	...	0 14	...	0 26	June 1874
12500	Burra Burra, <i>c</i> , So. Australia	5 00	...	—	...	—	—	...	70 00	...	10 00	Oct. 1879
20000	Cape Copper Mining, <i>s</i> † So. Africa	7 00	...	42	...	40	42	...	27 18	...	1 00	Mar. 1877
40000	Chico, <i>g</i> , California*	10 00	...	—	...	—	—	...	2 6	...	2 6	June 1878
15000	Chicago, <i>s</i> , U. S.	10 00	...	4½	...	4½	4½	...	2 8	...	2 00	Nov. 1876
21000	Colorado Terrible, <i>s</i> †, Colorado*	5 00	...	2½	...	1¾	1¾	...	0 13	...	0 4	Jan. 1876
10000	Copapo, <i>c</i> , Chili† (<i>s</i> 20 shares)	18 60	...	—	...	—	—	...	7 8	...	2 6	Jan. 1877
1 00000	Don Pedro North del Rey†	0 18	...	¾	...	¾	¾	...	2 5	...	2 00	Mar. 1879
23500	Eberhardt and Aurora, <i>s</i> , Nevada†	10 00	...	9	...	8½	9	...	1 8	...	0 30	Dec. 1876
50000	Emma, <i>s</i> , <i>g</i> , <i>s</i> , Utah	20 00	...	¾	...	¾	¾	...	3 12	...	0 60	Dec. 1877
70000	Engle and Australian, <i>c</i> , So. Aust.	2 10	...	1¾	...	1¾	1¾	...	23 19	...	2 00	Mar. 1878
30000	Engle and Australian, <i>c</i> , So. Aust.	10 00	...	¾	...	¾	¾	...	4 2	...	0 80	July 1878
15000	Estancia, <i>l</i> , Spain†	2 00	...	—	...	—	—	...	0 1	...	0 1	Mar. 1877
50000	Frontino & Bolivia, <i>g</i> , New Gran.	2 00	...	1¾	...	1¾	1¾	...	0 1	...	0 1	June 1879
30000	Gold Run, <i>hyd.</i>	1 00	...	—	...	—	—	...	0 24	...	0 40	Oct. 1879
60000	Kapunda Mining Co. Australiat	1 30	...	—	...	—	—	...	0 24	...	0 20	July 1878
20000	Last Chance, <i>s</i> , <i>g</i> , Utah	5 00	...	1	...	¾	¾	...	0 14	...	0 20	July 1878
15000	Lineares, <i>l</i> , Spain†	3 00	...	7½	...	6¾	7½	...	16 17	...	2 00	Mar. 1877
65000	London and California, <i>g</i> †	2 00	...	¾	...	¾	¾	...	0 1	...	0 10	July 1877
7887	Lusitania, Portugal† (<i>s</i> 48 shares)	3 40	...	—	...	—	—	...	11 18	...	1 6	Mar. 1878
50000	Mammoth & Upperopolis of Utah, <i>c</i> , 10	10 00	...	—	...	—	—	...	0 5	...	0 5	Dec. 1877
8000	Mountain Chief, <i>s</i> , Utah	10 00	...	—	...	—	—	...	0 0	...	0 40	Jan. 1878
18000	Prussian Mining & Ironworks, <i>g</i> †	30 00	...	—	...	—	—	...	6 0	...	0 00	Oct. 1878
10000	Pontigbaud, <i>s</i> †, France†	20 00	...	23	...	23	25	...	23 11	...	1 11	Nov. 1877
000000	Port Phillip, <i>g</i> , Clunes†	1 00	...	¾	...	¾	¾	...	1 8	...	1 00	Jan. 1879
54000	Richmond Consols, <i>s</i> , Nevada†	5 00	...	6¾	...	6½	6¾	...	3 9	...	0 78	Oct. 1876
40000	Santa Barbara, <i>g</i> , Brazil	0 10	...	2¾	...	2¾	2¾	...	0 2	...	0 60	Oct. 1876
20000	Scottish Australian Mining Co.	1 00	...	2	...	2	2½	...	17½	per cent.	...	Nov. 1876
80000	Scottish Australian Mining Co., New.	0 5	...	¾	...	¾	¾	...	17½	per cent.	...	Nov. 1876
12500	Sierra Buttes, <i>g</i> , California†	2 00	...	1	...	¾	¾	...	1 16	...	0 20	Oct. 1876
40000	South African, <i>s</i> , Nevada*	5 00	...	¾	...	¾	¾	...	14 12	...	0 20	Nov. 1873
2258000	St. John del Rey† (<i>s</i> 45 stock and multiples dealt in)	...	...	270	...	320	...	...	½	...	20 p. cent.	Dec. 1876
20000	Tollima, <i>g</i> , <i>s</i> † So. America	5 00	...	¾	...	¾	¾	...	0 11	...	0 11	Oct. 1874
20000	Victoria (London), <i>g</i> , Australia	1 00	...	1¼	...	1¼	1¼	...	0 11	...	0 10	Aug. 1876
10000	Western Andes, <i>s</i> , New Granada.	5 00	...	—	...	—	—	...	12	per cent.	per an.	July 1876
21000	W. Prussian (8500 spec. fr. 101. paid)	10 00	...	11½	...	11	11½	...	0 16	...	0 80	Sept. 1878

NON-DIVIDEND FOREIGN MINES

<i>Shares.</i>	<i>Africa.</i>	<i>Paid.</i>	<i>Last Pr.</i>	<i>Clos. Pr.</i>	<i>Last Call.</i>
\$9000 Anglo-Australian, <i>s</i> , Victoria [*]	3 10	"	"	"	..Fully pd.
\$600 Argilla Phosphate, West Indies (4000 issued)	10 00	"	"	"	..Fully pd.
\$1200 Argentine, <i>s</i> , Argentine Republic	5 00	"	5½	5 ¾	..Fully pd.
\$1000 Australian Central, <i>s</i> [*] (also 6000 deferred shares)	1 00	"	"	"	..Fully pd.
\$300 Bolivia, <i>s</i> , Peru (also shares)	10 00	"	"	"	..Fully pd.
\$9000 Blue Tent, <i>Hyd.</i> , California	5 00	"	"	"	..Fully pd.
\$5000 Cesena Sulphur Company, Romagnolo, Italy	10 00	"	3¼	3 ¾	..Fully pd.
\$8152 Chentala, <i>g</i> , <i>s</i> , Nicaragua ^{*†}	2 00	"	"	"	..Fully pd.
\$1800 Condes de Chili, <i>s-l</i>	8 00	"	8½	8 ¾	..Fully pd.
\$5000 Excelsior Hydraulic Gold Washing Co., California [*]	8 00	"	"	4½ 4¾	..Fully pd.
\$10000 Exchequer, <i>s</i> , <i>s</i> , California ^{*†}	1 00	"	1¼	1½ 1¾	..Fully pd.
\$9000 Holcombe Valley, <i>g</i> , California	1 00	"	"	"	..Fully pd.
\$10000 Imperial Petroleum, <i>s</i> , <i>s</i> , 100 shares Spain	10 00	"	"	"	..Dec. 71
\$1000 Imperial Brazilian Collieries, Brazil [*]	8 00	"	13¼	13¾ 13¾	..Jan. 1874
\$6000 I. L. & S., <i>s</i> , California [*]	1 00	"	"	"	..Fully pd.
\$9000 Javali, <i>g</i> , Nicaragua [*]	1 00	"	1	¾ 1	..Fully pd.
\$250 La Manche, <i>i</i> , Newfoundland	10 00	"	"	¾ ¾	..Fully pd.
\$1200 Lanestosa, <i>i</i> , <i>s</i> , Vizcaya, Spain (£2 shares)	1 15	"	"	"	..Fully pd.
\$7500 Malabar, <i>s</i> , Colombia* (67185 debent.)	1 00	"	¾	¾ ¾	..Mar. 1876
\$1000 Napaso, <i>g</i> , Colombia [*] (7400 pref. shares, fully paid)	1 00	"	¾	¾ ¾	..Fully pd.
\$12 Menzberg, <i>g</i> , Homburg, Germany [*]	5 80	"	"	"	..Fully pd.
\$758 New Benndorf, <i>s</i> , Germany	5 00	"	"	"	..Nov. 1876
\$9000 New Quebrada, <i>c</i> , Venezuela	5 00	"	"	"	..Nov. 1876
\$9000 New Zealand Kapanga, <i>g</i> , Coromandel [*]	8 00	"	4½	4 4¾	..Fully pd.
\$3000 Oregon, <i>g</i> , Oregon, U. S. (preference shares)	4 00	"	3½	2 2½	..Fully pd.
\$6000 Pannicilio, <i>c</i> , Chili [†] (£80000 debentures)	4 00	"	4½	4 4¾	..Sept. 1875
\$9000 Pestana United, <i>g</i> , Italy ^{*†}	3 00	"	1½	1½	..Fully pd.
\$8000 Providencia and New Rosario, <i>s</i> , Mexico [*]	1 00	"	¾	¾ ¾	..Fully pd.
\$5000 R. C. & Co., <i>g</i> , Bahia [*] (1000 issued)	1 00	"	"	"	..Fully pd.
\$2511, 000 Rio Tinto, <i>g</i> , Buenos Ayres	Stock	"	65	64 66	..Fully pd.
\$9000 Rosa Grande, <i>g</i> , Brazil [†] (£1 sh. share)	1 00	"	"	"	..Fully pd.
\$9000 Russia Copper, Orenburg and Ufa ^{*†}	0 19 0	"	¾	¾	..July 1872
\$2500 San Pedro, <i>c</i> , Chili [†]	10 00	"	2½	2 2½	..Fully pd.
\$600 Silver Plume, <i>s</i> , Colorado [*]	2 00	"	1	¾ 1	..Fully pd.
\$7500 Snowdrift, <i>c</i> , Colorado	2 00	"	"	"	..Fully pd.
\$6000 Tecoma, <i>s</i> , Utah [*]	10 00	"	¾	¾ ¾	..Fully pd.
\$5000 The Hill Creek, <i>g</i> , Australia [*]	1 00	"	"	"	..Fully pd.
\$1000 United Mexican, <i>s</i> , Mexico ^{*†}	28 15 3	"	2½	2 2½	..May 1875
\$2500 Utah, <i>g</i> , <i>s</i> , Utah	8 00	"	"	"	..Fully pd.
\$2500 Yorke Peninsula, <i>c</i> , South Australia	1 00	"	1½	¾ ¾	..Fully pd.
\$2500 Yorke Peninsula, <i>c</i> , South Australia Preference	1 00	"	1½	¾ ¾	..Fully pd.

* Have made calls since last dividend was paid.

FOREIGN AND MISCELLANEOUS STOCKS, BONDS, LOANS, AND TRUSTS

Closing Prices.		Closing Prices.	
Argentina, 1888, 8 per cent.....	66 68	Foreign and Col. Gov. Trust, 4 p. cent.....	54 58
Bolivia, 6 per cent.....	18 20	Do., 5 per cent, 2d issue.....	54 58
Chilean, 1865, 5 per cent.....	93 95	Do., 6 per cent, 3d issue.....	54 68
China, 1895, 5 per cent.....	101 104	Do., 1872, 4th issue.....	55 60
City of Providence, 5 p. c. bonds.....	101 100	Do., 1873, 5th issue.....	56 60
Egyptian, 1862, 7 per cent.....	49 51	Peruvian, 1870, 6 per cent.....	18 19
Do., 1888, 7 per cent.....	51 52	Do., 1872, 7 1/2 per cent.....	14 15
Do., 7 per cent, V.M.L.....	66 68	Russian, 5 1/2 per cent. L.....	74 76
Do., 9 per cent, K.M.L.....	72 76	Spanish, Quicksilver Mort. 5 p. cent.....	93 95
Do., 7 per cent, K.M.L.....	37 1/4 38 1/4	United States Mort., 6 per cent.....	93 1/2 94 1/2

NON-DIVIDEND MINES.

<i>Shares.</i>	<i>Mines.</i>	<i>Paid.</i>	<i>Last wk.</i>	<i>Clos. pr.</i>
40000	Aberystwith, <i>s. l.</i> , Llanidloes*	1 0 0 ..	1½ ..	1½ 1½
10000	Aberystwith, <i>s. l.</i> , Cardigan	5 0 0 ..	—	—
7800	Alric & Burg., <i>s. l.</i> , St. Aust. (8 <i>l.</i> sh.) ..	2 10 0 ..	27½ ..	25½ 23½
10000	Amrose Lake, <i>t.</i> , <i>c.</i> , Liskeard	1 18 6 ..	—	—
12000	Asheston, <i>t.</i> , Carnarvonshire*	5 0 0 ..	2 ...	1½ 2
50000	Ballycummick, * <i>c.</i> , Sehall	2 0 0 ..	—	—
20000	Bedford United, <i>c.</i> , Tavistock	1 19 6 ..	7½ ..	5½ 7½
28000	Belstone, * <i>c.</i> , Devon (27,000 <i>fy.</i> pd.) ..	1 0 0 ..	2½ ..	2½ 2½
10000	Black Hills, <i>s. l.</i> , Cardigan	1 0 0 ..	1½ ..	¾ 1½
8337	Blue Hill, <i>t.</i> , <i>c.</i> , Carnarvonshire*	3 7 7 ..	—	—
30000	Bodlirid, <i>t.</i> , <i>l.</i> , Denbighshire	5 0 0 ..	13½ ..	13½ 13½
2000	Bowden Hill, <i>l.</i> , <i>l.</i> , <i>l.</i>	1 0 0 ..	—	—
6000	Bradwell Moss Lake	1 0 0 ..	1½ ..	¾ 1½
10000	Caldbock Fell, <i>l.</i> , Cumberland*	2 0 0 ..	—	—
15000	Cathedral, <i>t.</i> , <i>c.</i> , Gwennap*	1 10 0 ..	1½ ..	1 1½
20000	Central Foxdale, <i>l.</i> , <i>l.</i> of Man (2 <i>l.</i> sh.) ..	1 0 0 ..	—	—
10000	Central Van, * <i>l.</i> , <i>l.</i> , Llanidloes	5 0 0 ..	—	—
128	Clementia, <i>l.</i> , Llanrwst	20 0 0 ..	40 ...	35 45
750	Combellack, * <i>c.</i> , Wendron	2 0 0 ..	¾ ..	2 2½
10000	Combarnon, <i>s. l.</i> , North Devon	5 0 0 ..	3½ ..	¾ 5½
24	Court Grange, <i>s. l.</i> , Cardiganshire	0 15 0 ..	1½ ..	1 1½
20000	Cwm Dywys, * <i>c.</i> , Carnarvonshire* ..	5 0 0 ..	—	—
3000	Cwmystwith (New) [N. shares]	4 0 0 ..	—	—
512	D'eresby Mountain, <i>l.</i> , <i>l.</i> , Llanrwst	20 0 0 ..	50 ...	50 50
10000	Denbighshire Consolidated, <i>l.</i> , *	4 0 0 ..	3 ...	2½ 3
10000	Derwent, * <i>l.</i> , Durham	4 0 0 ..	3 ...	3½ 4
858	Ding Dong, <i>t.</i> , Guisal	51 9 6 ..	4 ...	3½ 4
10000	Dubby Byke, <i>l.</i> , Durham*	0 12 6 ..	¾ ..	¾ ¾
4000	East Chiverton, <i>l.</i> , Perranzabuloe	6 14 6 ..	2½ ..	2 2½
6000	East Goginan, <i>l.</i> , Cardigan	2 0 0 ..	2 ...	2
18000	East Van, <i>l.</i> , Llanidloes*	5 0 0 ..	7½ ..	7½ 7½
20000	Elgar, * <i>s. l.</i> , Cardiganshire	1 0 0 ..	1½ ..	1 1½
1000	Frank Mills, <i>l.</i> , Christow	5 6 0 ..	5½ ..	¾ ¾
8000	Freonvelian, <i>l.</i> , Mont. * (4000 <i>sh.</i> <i>fy.</i> pd.)	1 0 0 ..	—	—
3950	Gawton, <i>c.</i> , Tavistock	4 3 6 ..	¾ ..	¾ ¾
12000	Glan Clwyd, * <i>l.</i> , Gwyddelwern	1 0 0 ..	—	—
14000	Glenroy, * <i>s. l.</i> , Isle of Man	4 0 0 ..	2 ...	1½ 1½
10000	Glyn, <i>l.</i> , Llanidloes	2 0 0 ..	2½ ..	1½ 2
12000	Goginan, & Level Newydd, Card., <i>l.</i> ..	2 10 0 ..	—	—
100000	Gold, <i>c.</i> , Merionethshire	1 0 0 ..	—	—
10000	Goreu, <i>s. l.</i> , Carmarthen	1 0 0 ..	1½ ..	1½ 1½
10000	Gowder, East Merilyn Cons., <i>l.</i> , Flint ..	2 10 0 ..	5½ ..	5 5½
20000	Gt. E. Foxdale, <i>l.</i> , <i>l.</i> of Man (1 <i>l.</i> sh.) ..	2 15 0 ..	—	—
9500	Great Pant-y-Pedwar, <i>l.</i> , Holywell	2 0 0 ..	—	—
6000	Gt. Wheal Eleanor, <i>t.</i> , North Bovey	1 0 0 ..	3 ...	2 3
18000	Grosvener, <i>l.</i> , Holywell (21 <i>sh.</i>)	0 15 0 ..	—	—
10000	Harehope Gill, <i>l.</i> , Durham (21 <i>sh.</i>)	0 5 0 ..	1 ...	¾ 1
6400	Harwood, <i>l.</i> , Durham	0 15 0 ..	1 ...	¾ 1
5000	Hush Eisteddfod Miners, * <i>l.</i>	2 0 0 ..	—	—
200	Islay, * <i>l.</i> , Scotland	28 0 0 ..	—	—
4000	Killifreth, <i>l.</i> , Chacewater	1 18 0 ..	1½ ..	1 1½
15000	Kington Con., <i>s. l.</i> , Stoke Climsland ..	1 0 0 ..	—	—
2000	Ladywell, <i>l.</i> , Salop	2 10 0 ..	1½ ..	1 1½
2 03	Ditto, 10 per cent. pref., <i>l.</i> , each	0 5 0 ..	¾ ..	¾ ¾
2500	Leadhills, <i>l.</i> , Lanarkshire	6 0 0 ..	6½ ..	6½ 6½
10000	Leant, <i>c.</i> , <i>t.</i> , St. Aust.	9 6 6 ..	—	—
10000	Llanidloes, <i>l.</i> , Montgomery	2 0 0 ..	—	—
10000	Llanrwst, * <i>l.</i> , Carnarvon	2 0 0 ..	3½ ..	3½ 3½
5000	Llynw Teify, * <i>l.</i> , Cardigan	1 0 0 ..	—	—
6000	Melinar Moor, <i>t.</i> , Wendron	1 17 4 ..	2 ...	2
10000	Medleyan Copper, Hayle*	1 0 0 ..	—	—
1000	Monydd Goriddu, <i>l.</i> , Cardigan* (Red.) ..	5 0 0 ..	4 ...	5 5½
2000	Mount's Bay, <i>c.</i> , Marazion	1 0 0 ..	—	—
5000	Nant-y-Ronen, <i>s. l.</i> , Cardigan*	1 0 0 ..	—	—
5000	Naunty Conner*	1 0 0 ..	—	—

IRON AND COAL COMPANY

Share.	Company.	Paid.
£100	Abbot, John, and Co. [L.]	£78 0 0
15	Abhai Steel and Wire Co. [L.]	14 0 0
5	Albion Colliery [L.]	5 0 0
100	Asbury Co. [L.]	8 0 0
10	Bagnall, John, and Sons [L.]	90 0 0
10	Benhar Coal Co. [L.]	10 0 0
50	Bilbao Iron Ore Co. [L.]	60 0 0
10	Bilson & Crump Meadow Coll. Co. [L.]	10 0 0
5	Blaenavon Coal Co. [L.]	4 0 0
50	Blaenavon Iron and Steel Co. [L.]	60 0 0
100	Bolckow, Vaughan, and Co. [L.]	£45 0 0
50	Bowling Iron Co. [L.]	50 0 0
50	Britannia Ironworks [L.]	28 0 0
50	Brown, Bailey, and Dixon [L.]	40 0 0
100	Brown, John, and Co. [L.]	70 0 0
5	Cakemore Colliery Co. [L.]	8 0 0
50	Cammell and Co. [L.]	80 0 0
100	Cannock and Huntington Coal [L.]	2 0 0
10	Cardiff & Swansea St. Coal Co. [L.]	8 0 0
10	Cardigan Steam & Wire Co. [L.]	8 0 0
10	Central Swedish Iron and Steel [L.]	5 0 0
5	Chapel House Colliery	10 0 0
50	Charlton Iron Co. [L.]	50 0 0
50	Chatterley Iron Co. [L.]	45 0 0
10	Chillingham Iron Co. [L.]	10 0 0
1	Clee Hill Colliery Co. [L.]	1 0 0
10	Conselt Iron Co. [L.]	7 0 0
1	Consent System of Iron [L.]	1 0 0
50	Cooke, William, and Co. [L.]	40 0 0
20	Darlington Iron Co. [L.]	10 0 0
50	Davy Brothers [L.]	22 0 0
5	Diamond Fuel Co. [L.]	5 0 0
52	Ebbw Vale Co. [L.]	29 0 0
100	Fox, Samuel, and Co. [L.]	60 0 0
10	General Mining Ass. [L.] (£1 returned)	9 0 0
50	Great Western Coal Co. [L.]	17 0 0
2	Glasnewilling Colliery Co. [L.]	2 0 0
2	Hopkins, Gilkes, and Co. [L.]	11 0 0
50	Knowles, Andrew, and Sons [L.]	17 0 0
10	Llay Half Coal, Iron, & Firebrick [L.]	10 0 0
5	Littledean Woodside Coll. Co. [L.]	5 0 0
50	Llynny, Ogmore, & Tondri Co. [L.]	60 0 0
10	Lynedy and Wigpool Iron Ore [L.]	8 0 0
10	Marbella Iron Ore Co. [L.]	10 0 0
5	Mersey Steel and Iron Co. [L.]	5 0 0
5	Midland Iron Co. [L.]	5 0 0
5	Mold & Argyle Colliery [L.]	5 0 0
10	Monkland Iron and Coal Co. [L.]	10 0 0
4	Mwynny Iron Ore Co. [L.]	5 0 0
100	Nant-y-Glo and Blaiza (8 p.e. pref.)	100 0 0
1	Nerbudda Coal and Iron	0 0 0
20	New Sharlston Collieries [L.] Pref.	20 0 0
10	Newport Abercrom Coal Co. [L.]	10 0 0
10	Northampton Coal, Iron & Wagon [L.]	8 0 0
10	Northfield Iron Co. [L.]	8 0 0
100	Northampton Portland Cement Co. [L.]	1 0 0
35	Palmer's Shipbuilding and Iron [L.]	25 0 0
100	Parkgate Iron Co. [L.]	65 0 0
20	Patent Nut and Bolt Co. [L.]	14 0 0
20	Patent Shaft and Axletree [L.]	10 0 0
20	Pellall Coal and Iron [L.]	15 0 0
50	Phoenix Bessemer Co. [L.]	40 0 0
50	Rhymney Iron Co. [L.]	50 0 0
10	Richards and Co. [L.]	10 0 0
100	Sandwell Park Colliery Co. [L.]	100 0 0
100	Saunders & Co. [L.]	10 0 0
100	Shotts Iron Co. [L.]	100 0 0
100	Sheepbridge Iron and Coal [L.]	55 0 0
50	Silkstone & Dodworth Cl. & Iron [L.]	27 0 0
20	Skerne Ironworks [L.]	20 0 0
50	Somersetshire Iron Co. [L.]	50 0 0
20	South Wales Coal Co. [L.]	17 0 0
100	Staveley Iron and Coal Co. [L.]	80 0 0
100	St. Helens Iron and Coal Co. [L.]	10 0 0
20	South Cleveland Ironworks [L.]	20 0 0
10	Swansea Valley Steam Coll. Co. [L.]	5 0 0
100	Thames Iron Company	100 0 0
50	Tredegar Iron and Coal Co. [L.]	12 0 0
25	Ditto B. shares	25 0 0
20	Ulverston Mining Co. [L.]	12 0 0
1	United Bituminous Collieries [L.]	1 0 0
10	Vancouver Coal [L.]	6 0 0
100	Vickers, Sons, & Co. [L.]	100 0 0
50	Welsh Ironworks Co. [L.]	50 0 0
25	W. Cumberland I. and Steel [L.]	20 0 0
10	West Wootton Coal [L.] (12 p.e. pref.)	5 0 0
5	West of Scotland Coal Co. [L.]	5 0 0
10	Whitehaven Iron Co. [L.]	10 0 0
100	Wigan and Whiston Coal Co. [L.]	70 0 0
100	Wigan Coal and Iron Co. [L.]	75 0 0

WAGON COMPANIES

10 Birmingham Wagon Co. [L.].....	10 0 0	22	29
5 Ditto, 2nd issue.....	4 0 0	4	4
10 Ditto, pref., 6 per cent.....	10 0 0	129	139
20 British Wagon Co. [L.].....	10 0 0	129	139
10 Gloucester [L.].....	10 0 0	129	139
10 Ditto, 5th issue.....	5 0 0	1 1	1 1
10 Met. Rail. Car. and Wagon Co. [L.].....	5 0 0	4	4
5 Ditto, pref., 6 per cent.....	5 0 0	5	5
50 Midland.....	50 0 0	95	95
20 North Central Wagon Co.	20 0 0	27	27
5 Rail. Car. [L.] (Oldbury).....	5 0 0	10	10
5 Ditto, pref., 6 per cent.....	5 0 0	8	8
20 Sheffield Wagon Co. [L.].....	18 0 0	39	39
10 Yorkshire Wagon Co. [L.].....	10 0 0	4	4

TELEGRAPH COMPANIES.

St. Anglo-American	100	0 0	5 1/4	87
10 Brazilian Submarine	10	0 0	0 0	0
20 Direct United States Cable	20	0 0	10 1/2	10
10 Eastern	10	0 0	0 1/2	0
10 East. Exten. Australia and China	10	0 0	7 1/2	7 1/2
10 Great Northern	10	0 0	7 1/2	7 1/2
25 Indo-European	25	0 0	18 1/2	18 1/2
5 Mediterranean Extension	10	0 0	2 1/2	2 1/2
Stk. Submarine	100	0 0	2 1/2	2 1/2
20 West India and Panama	10	0 0	3 1/2	3 1/2
20 Western and Brazilian	10	0 0	4 1/2	4 1/2
1000 Western Union, 7 per cent. Mort. Bonds	1000	100	100	100

MISCELLANEOUS.

Stk. Atlantic and Great Western Leased	100	0 00	40	45
Lines, Rental Trust	100	0 00	40	45
25 Austral. Mort. Land and Finance [L.]	5	0 00	4	45
25 Australian Agricultural	21	10 00	95	95
10 Avonside Engine [L.]	7	0 00	4	45
Stk. Baltimore and Ohio, 6 per cent.	100	0 00	109	110
Stk. Cent. of New Jersey Con. Mort.	100	0 00	82	84
Stk. Cent. Pacific of Calif., 1st Mort. 6 p.c.	100	0 00	103	104
25 City of London Real Property [L.]	12	0 00	54	54
25 Copper Miners of Eng. (7 p. 6. pref.) ..	25	0 00	—	—
5 C. C. F. of Eng. and Land [L.]	5	0 00	134	134
5 Diamond Rock Boring	4	19 00	134	134
15 English and Foreign Credit	8	0 00	—	—
16 Euro Steam Warehouse [L.]	14	0 00	144	145
15 Foster, Porter, and Co. [L.]	10	10 00	11	11
5 Gen. Phos. & Chem. Works Co. [L.] ..	5	0 00	—	—
1 Glaisdale Whinstone Quarry	1	0 00	—	—
17 Hudson's Bay Company	17	0 00	134	134
10 Hibernian Assurance and Ins. Co.	9	0 00	84	84
Stk. Illinois Central, \$100 shares	100	0 00	50	50
Stk. Illinois & St. Louis Bridge, 1st Mort.	100	0 00	98	98
Stk. Ditto, 2nd Mort., 7 per cent.	100	0 00	78	78
Stk. Illinois Cent. Sinking Fund, 5 p. cent.	100	0 00	90	90
Stk. Ditto, 6 per cent.	100	0 00	101	101
7½ Imperial Credit [L.]	7	10 00	74	74
— Ditto, Surplus Certificate	—	—	84	84
Stk. Leigh Val. Con. Mort., A, 6 p. cent.	100	0 00	97	97
10 Littlehampton [L.]	10	0 00	104	104
25 London Discount [L.]	8	0 00	10	10
Stk. N. Cent. Rail. Con. Mort.	100	0 00	84	84
6 Patent Gunpowder Company	100	0 00	45	45
10 Pawson and Co. [L.]	0	0 00	44	44
5 Peninsular and Oriental Steam	50	0 00	58	58
Stk. Pennsylv. Gen. Mort. 6 p. cent., 1910	100	0 00	104	104
Stk. Ditto, Con. Sink. Fund, 6 p. et., 1905	100	0 00	94	94
10 Scotch Lend. Invest. Company	100	0 00	175	175
Stk. Ditto, 6 per cent. Preference	100	0 00	121	121
10 Suez Canal Share (sh.)	10	0 00	—	—
12 Telegraph Construction	12	0 00	27	27
5 Ditto, Second Bonus Three per Centa ..	5	0 00	29	29
10 Tharvis Sulphur and Copper Co.	10	0 00	20	20
Stk. Union Pacific Land Grant, 1st Mort.	100	0 00	96	96
Stk. Union Pacific Railway, 1st Mort.	100	0 00	101	101

* Limited Liability Companies; † quoted on the Stock Exchange; ‡ have paid dividends.

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